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THE RELATIONSHIP OF SEX ROLE ORIENTATION TO COLLEGE WOMEN'S EXPERIENCE OF MENSTRUATION

By

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ABSTRACT

THE RELATIONSHIP OF SEX ROLE ORIENTATION TO COLLEGE WOMEN'S EXPERIENCE OF MENSTRUATION

By

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This study investigated the relationship between sex-role orientation and several attitudinal variables associated with the experience of menstruation. The subjects were 105 unmarried, childfree undergraduate women who were not currently taking oral contraceptives. Subjects completed the Marlowe-Crowne Social Desirability Scale, the Bem Sex Role Inventory (BSRI), the Menstrual Distress Questionnaire (MDQ), and the Menstrual Attitude Questionnaire (MAQ). The following groups of hypotheses were tested: 1) That women defined as feminine on the BSRI would be more likely to report greater cycle change on the MDQ, and more likely to hold different attitudes toward menstruation than women in other BSRI categories combined. 2) That women defined as feminine on the BSRI would be more likely to report greater cycle change on the MDQ, and more likely to hold different attitudes towards menstruation than women defined as androgynous. Women defined as androgynous on the BSRI would be more likely to view menstruation as positive. 3) That women defined as masculine on the BSRI would be less likely to report cycle change on the MDQ, and more likely to hold different attitudes toward menstruation than women in other BSRI categories combined.

Results showed that women who are defined as feminine on the BSRI are more likely to view menstruation as debilitating, and less

likely to deny the effects of menstruation. On the other hand, women defined as masculine on the BSRI were more likely to deny the effects of menstruation. Multiple regression equations showed masculine responses (on BSRI) to be a moderate predictor regarding the attitude of debilitation, and feminine responses (on BSRI) to be a moderate predictor concerning the attitudes of denial and debilitation. No relationship between cycle change report on the MDQ and sex role orientation was found. The possible role of androgyny in the experience of menstruation was discussed.

Results were seen as supportive of the sociocultural view of menstruation. The relationship of cycle change reports to social expectation and reported attitudes was noted. The importance of continued exploration of women's attitudes toward menstruation and the relationship of these attitudes to physical and psychological experience were discussed.

Menstruation is a complex phenomenon. Physiological, psychological, and sociocultural factors are involved in a woman's experience of menstruation, sex role orientation being only one of these factors. Further research is necessary to clarify the relationship of sex role orientation and menstrual experience and to understand more fully the roles of various sex role stances.

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INTRODUCTION

Along with women's attempt to expand their social opportunities and their claiming of greater valuation of their experiences has come a renewed interest in research about menstruation. Preconceptions that a woman's work ability is lessened by the monthly "curse" are being challenged. It now appears that although women have been found to show cyclic changes in behavior, the extent of the changes and their negative quality have been overestimated by past researchers and in cultural folklore. As noted by Donelson and Gullahorn (1977), "what is more striking than the changes that can and do occur cyclically is the fact that women are really quite consistent, with minor cyclic changes occurring within rather stable behavior patterns . . .although physiological changes of the menstrual cycle may provide a biological predisposition for the exaggeration of some attributes, they do not radically alter a woman."

Past research has emphasized the physiological aspects of menstruation, with the higher incidence of reported symptomatology being attributed to cyclical hormonal change. Women have been reported to exhibit a wide range of negative affect states, physical discomforts and behavioral symptoms just prior to and during menstruation. In all, Moos (1968) found over 150 "symptoms" mentioned throughout the literature.

Different groupings of symptoms are referred to by different terms. According to Dalton (1964; 1977), a British physician who has been a large contributor to the menstrual literature, the term "premenstrual syndrome" covers these symptoms which occur regularly in the same phase of the menstrual cycle, followed by a symptom free phase in each cycle. Termination of symptoms may occur abruptly with onset of the menstrual flow, gradually resolve, or stop a day before the flow. There are many variations but the same pattern tends to recur in any one individual. The peak of symptoms usually is in the paramenstruum, which includes the four days before menstruation and the first four days of menstruation. The term "permenstrual syndrome" generally refers to both somatic and psychological symptoms, whereas "premenstrual tension" covers only psychological symptoms.

Dalton (1977) also talks about two types of dysmenorrhea. Spasmodic or idiopathic dysmenorrhea is characterized by pain during the menstrual flow itself, and is considered a separate entity from the premenstrual syndrome. It is commonest between the ages of 15 and 25, after which it usually resolves. Congestive dysmenorrhea, on the other hand, is more in line with the premenstrual syndrome. It may start at menarche and increase in severity with age and parity.

Just how many women experience menstrual related symptoms? Dalton calls the premenstrual syndrome "one of the world's commonest diseases", and concludes that "at times the evidence seems so universal that there is a tendency to forget that not every woman suffers to the same extent or in the same way, and that only 40 to 50 percent of the total female population are handicapped by the cyclical hormonal swings of menstruation (1977, p. 140)." A cross-cultural study of American,

Japanese, Nigerian, Apache, Turkish and Greek women suggests that variation of behavior with the menstrual cycle is universal, although severity and type of symptomatology differ from culture to culture (Janinger, Riffenburgh & Kersh, 1972). Figures for menstrual symptom incidence have ranged from 20 to 100 percent, depending on the definition used. It seems clear that a large number of women have some type of symptomatology, although exactly how many women have what kind of experience is debatable.

Menstrual related symptomatology has also been studied from a psychological standpoint. Traditional psychoanalytic approaches have tended to view symptoms as reflecting a failure of the woman to adjust to woman's role in society--primarily a reproductive role. Thus, the "neurotic" woman meets menstruation with resistance, menstruation being the bloody sign of the woman not having a penis (Delaney, Lupton & Toth, 1976).

In general, the literature has ignored the positive aspects of menstruation. Perhaps in reaction to the overall negativism of traditional psychoanalytic thought, there is today a growing interest in the physiological basis of menstruation and menstrual disorders. Some researchers, such as Dalton (1977), are convinced that all menstrual problems can be traced to physical sources--the cyclical hormonal changes. According to her, about half of the female population has a "disease", most women at least exhibiting some mild form of "natural contrariness" (p. 30).

Dalton has contributed much to the development of medical treatment for menstrual symptoms. Physiological understanding and treatment

have proven to be very helpful for many women who experience severe symptoms. Telling these women that the symptoms are "all in their head" does not address their concerns. However, speaking of the menstrual experience in terms of "disease", "symptoms", and "natural contrariness" serves to further the negative view of menstruation, with women being considered unfortunate victims of their biology.

Thus, menstruation research and theorizing has been done from both a physiological and psychological viewpoint. Delaney et al. (1976) conclude that the menstrual experience is probably not purely a psychological or physiological phenomenon, and that it should be viewed in a cultural context. Recent studies have attempted to further explore the cultural aspects of menstruation, and have attempted to highlight the positive aspects of the experience.

Relationship of Social Behavior and Performance with the Menstrual Cycle

Many studies investigating the relationship of social behaviors and the menstrual cycle have been correlational, using information of cycle phase and statistical data on the occurrence of specific well-defined behaviors. The phase of the menstrual cycle is determined either by questioning the woman shortly after the behavioral event, measuring basal body temperature, having a vaginal smear test done, or using autopsy data. Correlations have been reported between the premenstrual or menstrual phases of the cycle and commission of violent crimes (Cooke, 1945; Dalton, 1961; Morton et al., 1953; Ribeiro, 1962), death from accident or suicide (MacKinnon & MacKinnon, 1956; Mandell & Mandell, 1967; Dalton, 1961; Tonks et al., 1967), accidents (Dalton, 1960), admission to a hospital with acute psychiatric illness (Dalton, 1959;

Janowsky et al., 1969), taking a child to a medical clinic (Dalton, 1966), and loss of control of aircraft (Whitehead, 1934).

Parlee (1973), in her review of menstruation literature, notes that many of these studies are methodologically less than sound. Furthermore, she points out that the correlational nature of these studies limits the interpretation of the findings. Whereas most investigators do not explicitly state there is a causal relationship between hormonal changes and the occurrence of various behaviors, they do strongly imply that the hormones are the cause of the behavior. Rarely is it suggested that the behavioral event may affect the menstrual cycle, although gynecology texts state that certain events may psychologically delay menstruation or precipitate its outcome.

In addition, correlational data from particular groups cannot provide a basis for generalizability about all women unless it is assumed that women are equally likely to become members of the groups in which data were collected. For instance, knowing that crimes are likely to be committed during certain phases of the menstrual cycle does not mean that all women in these phases are likely to commit crimes. This is only true for those women who will commit crimes. It is possible, note Donelson and Gullahorn (1977), that studies of different populations might reveal correlations between the premenstrual and menstrual phases and more positively valued acts, such as creative bursts of energy.

Research has also been done on cognitive and perceptual-motor behavior as related to menstrual cycle phase. Studies have investigated motor coordination and physical activity (Sloan, 1961; Morris &

Udry, 1970), athletic performance (Erderlyi, 1962; Zaharieva, 1965), vibrotactile learning (Diespecker & Koloktronis, 1971), simple reaction time and skin potential (Pierson & Lockhart, 1963; Loucks & Thompson, 1968; Kopell et al., 1969), perceptual-motor tests (Schwank, 1971; Sommer, 1971), examination and intellectual task performance (Wickham, 1939; Dalton, 1960, 1968; Sommer, 1972).

Sommer (1977) concludes, in her review of the cognitive and perceptual-motor behavior literature, that while studies using response measures based on self-report and social behavior indicate behavioral changes, those studies utilizing objective performance measures generally fail to demonstrate significant menstrual cycle related decrements. For example, although it has been stated that the monthly absenteeism and decrement in productive ability of women caused by the menstrual cycle has caused the United States industry an annual loss of five billion dollars (Dalton, 1964), a Public Health Service study found only a slight sex difference, less than half a day, in the yearly absentee rate for men and women (U.S. Department of Labor, 1974). In addition, studies such as Smith's (1950), have failed to find significant menstrual cycle related decrements in factory job performance.

Studies have also been done attempting to explore the relationship between menstrual cycle phase and autonomic responsivity and the effects of the gonadal hormones on the central nervous system. Donelson & Gullahorn (1977) and Sommer (1973) review the few studies that have been done in the area, and conclude that significant changes were found across cycle phase for only some indicators. The relationships between the endocrine and autonomic nervous system and the endocrine and central nervous systems are far from simple.

Thematic analysis studies

In their classic study of the menstrual cycle, Benedek and Rubenstein (1939a, 1939b) tried to relate phase of cycle to the psychological processes that were observed in psychoanalysis. Data consisted of verbal material collected over the course of psychoanalysis from nine women diagnosed as neurotic, over a total of 75 cycles. Benedek found that she could predict, solely on the basis of dream content material, the day on which ovulation occurred. Her predictions were independently corraborated by Rubenstein's analysis of vaginal smears. That the two kinds of records corresponded perfectly supports the conclusion that emotional states are correlated with hormonal states.

The possibility that a relationship exists between neuroticism and menstrual cycle symptomatology has inspired a fair amount of research. The assumption is made that menstrual cycle body changes revive conflicts and fantasies of a reproductive theme which have not been resolved by the neurotic woman. Coppen and Kessel (1963) had 500 patients of general practitioners complete a questionnaire about severe menstrual phase symptoms and another that measured neuroticism and extraversion. They concluded that premenstrual symptoms are an exacerbation of personality traits related to neuroticism.

Although it has been noted that the premenstrual syndrome seems to occur more often in neurotics than in normals, the menstrual symptomatology-neuroticism relationship is not simple. Many "neutoric" women are completely free of symptoms, whereas severe symptoms may be found in women who show little or no sign of neuroticism or maladjustment (Rees, 1953). Furthermore, the finding that progesterone treatment

has relieved some women casts more doubt on the existence of a simple symptomatology-neuroticism relationship.

Nonetheless, both anxiety (the chief characteristic of neurosis) and hostility have been found to vary with menstrual cycle phase. The Verbal Anxiety Scale was designed to measure fluctuation in these states. Subjects were asked to talk into a tape recorder for five minutes "about any life experience they cared to", the verbal material then being scored by content analysis for "hostility directed inwards", "hostility directed outwards", and "anxiety". Studying five women over a 30 to 60 day period, Gottschalk et al. (1962) found that four of the five women showed significant cyclical changes in the magnitude of at least one of the effects.

Using the same technique with a larger sample of women (26 women, data collected four times over the course of two cycles), Ivey and Bardwick (1968) confirmed the Gottschalk findings, reporting the ovulatory anxiety level to be significantly lower than the anxiety level of the premenstrual phase. Paige (1971) also gathered unstructured verbal material. Again, anxiety and hostility scores were found to significantly vary throughout the menstrual cycle. These cyclic variations were not present in the group of subjects who were taking oral contraceptives.

Donelson and Gullahorn (1977) point out that the Gottschalk study is important for two reasons. First, the study found individual consistency in the experience of the menstrual cycle but no group pattern. Second, it suggests that one must make frequent observations during each phase over several cycles in order to minimize the effects of

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extraneous variables and to observe the effects of the cycle clearly. Research findings which resist explanation in terms of a single group pattern suggest the existence of symptom subtypes.

Symptom subtypes and exacerbation theory

The most frequently used self-report questionnaire has been the Moos Menstrual Distress Questionnaire. Moos has analyzed women's reports of symptoms for the premenstrual, menstrual and intermenstrual phases of their most recent cycle and of their worst cycle ever. A factor analysis resulted in eight symptom groups or subscales. Moos has described the development of the questionnaire and has written a comprehensive review of the research using this measure (1968; 1977).

More recently, Moos has been analyzing the possibility of symptom subtypes, performing a cluster analysis of 579 women's MDQ scale scores (Moos & Leiderman, 1978). The symptom clusters fell into two major groups. The first group encompassed 49 percent of the sample and consisted of clusters of women who reported symptoms focused in only one of the eight MDQ symptom areas. The second group, comprising 45 percent of the sample, consisted of women who reported symptoms in more than one MDQ symptom area. Of importance was the finding that over 13 percent of the overall sample experienced only arousal reactions, supporting the view that some menstrual changes are positive.

Moos believes that the concept of symptom subtypes may help clarify inconsistent results in four general areas: 1) performance and behavioral changes related to the menstrual cycle; 2) oral contraceptive use and treatment effects on menstrual distress; 3) the relation

between attitudes toward menstruation and menstrual cycle symptoms; and 4) the extent of environmental influences on menstrual cycle symptom complaints. He suggests that different symptom subtypes may have different causes, i.e., endocrine factors may be more important in certain types of symptoms, whereas psychological or social -situational factors may be more salient in others.

The concept of symptom subtypes seems consistent with premises held by the exacerbation theory. Exacerbation theory holds that the symptoms that occur during the premenstrual or menstrual phases are exaggerations or exacerbations of symptoms that occur to a lesser extent throughout the cycle. Landers (1972) tested the theory with four young women over four complete cycles, finding menstrual cycle phase changes that occurred within consistent individual patterns of behavior. If a woman shows an individual pattern of behavior, it is possible that she will show changes in the magnitude of these behaviors at other times of the cycle than the premenstrual and menstrual phase. A woman's baseline behavior may be "exaggerated" or "under exaggerated" at any time of the month, depending on the relative amount of "stressors" in her life.

Daily self-reports and observations

The use of self-reports in menstrual research has been criticized for tapping women's expectations or stereotypic beliefs about the menstrual cycle, rather than actual symptomatology. In addition, retrospective self-reports may actually differ from daily reports in the type and severity of symptomatology reported. Thus, daily

self-reports or records have sometimes been used in order to circumvent the reporting of retrospective and/or stereotypic responses (Rees, 1953a, 1953b; Abramson & Torghele, 1961).

Wilcoxin, Schrader & Sherif (1976) had subjects fill out daily self-reports on pleasant activities, stressful events, moods and somatic changes for 35 consecutive days. Thirty-three undergraduates were studies--11 males, 11 females taking oral contraceptives and 11 females not taking oral contraceptives. Each male was randomly assigned a "pseudo cycle", and the data were analyzed to reveal differences among the three samples across three phases of their cycles.

The results indicated that males reported somewhat more stable but less positive experiences than did females. While males reported a fairly stable and low level of pain and water retention throughout the study, both female samples reported increased pain and water retention during the premenstrual and menstrual phases. There were no overall differences among the samples for reports of negative affect, impaired concentration or stressful events, although there were significant sample by cycle interactions. Females not taking oral contraceptives peaked on measures of negative mood during the menstrual period, while females taking oral contraceptives reported negative affect peaks during the premenstrual phase, with a drop at onset of menstruation. The experience of stressful events accounted for more of the variance than did cycle phase for negative mood, but not for pain and water retention.

This study is important in light of its attempt to assess the interaction of environmental stress with reported mood and somatic changes, as well as its use of control groups. Wilcoxin et al. (1976)

suggest that further studies of psychological reactions to the menstrual cycle include objective accounts of the person's life events as well as social-cultural definitions of stress and the menstrual cycle. Furthermore, the use of control groups such as men and women taking oral contraceptives is important to help better assess behavioral baselines. For instance, there is a growing body of evidence indicating that men also show mood changes that may be cyclical and related in part to underlying physiological changes (Moos, 1977).

Another approach to recording daily mood and behavior changes is to have the subjects observed by a rater. Altman et al. (1941) had the experimenter assess psychological changes during daily interviews. Seagull (1973) designed a Behavior Questionnaire by converting MDQ items into observable items of behavior. The questionnaire was then given to a friend who rated the subject's behavior at various intervals in both the premenstrual and intermenstrual phase (not on a daily basis). One difficulty with this is that only relatively close friends may know a person well enough to be sensitive to any cyclical behavioral changes, and their ratings may be confounded by knowledge of their friend's cycle phase.

Attitudes regarding menstruation, sexuality and femininity

As previously mentioned, recent theorists have suggested that self-reports of menstrual symptomatology such as the Menstrual Distress Questionnaire may measure stereotypic beliefs and expectations of menstrual distress rather than actual physiological or psychological states. There are several studies that support this position. Parlee

(1974) found that both college men and women reported symptoms similar to those reported in self-report studies when asked to rate their "knowledge about" or "experience of" symptoms and mood changes. Both Sommer (1973) and Baird (1975) found that although cognitive and physical abilities were not affected by cycle phase, the subjects believed that their own or others' performances are affected by the menstrual cycle. In addition, the women in the Baird study who were given the experimental expectation inconsistent with the cultural stereotype (i.e., told that women in their menstrual period perform better) were less likely to believe this expectation than those who were given the more culturally accepted expectation. Finally, Ruble (1977) showed that women who thought they were premenstrual (through an experimental manipulation) reported a higher degree of stereotypically appropriate symptoms than women who thought they were intermenstrual, even though the actual menstrual phase was the same for both groups (6-7 days before onset of menstrual flow).

The above findings indicate that there are relatively clear societal beliefs regarding the effects of menstruation, and that it is possible that these stereotypic beliefs are important determinants of reported cyclic change. However, note Brooks, Ruble & Clark (1977):

> . . . the fact that self-report measures may be biased does not mean we should dismiss the information they provide about the belief system associated with menstruation. The application of research and theory on social expectation (Rosenthal & Jacobson, 1968) to the menstrual cycle suggests that attitude and expectations about menstruation may themselves affect women's behaviors and self evaluations. For example, if a woman believes that menstruation has a negative effect on performance, she may be more anxious when taking an examination or may avoid participation in a variety of activities. (p. 289)

Thus, these authors decided to explore the range of expectation and attitudes associated with menstruation, and developed the Menstrual Attitude Questionnaire. This measure assesses attitudes and styles of coping with menstruation. The authors found that the pattern of correlations between expectations (as measured by the Menstrual Distress Questionnaire) and attitudes revealed that only two attitude factors out of five (that menstruation was debilitating and that it was predictable) were related to higher expected cyclic changes. Neither attitudes nor expectations were related to use of oral contraceptives.

These authors conclude that the picture of women's experience of menstruation has been limited by dependence on symptom scales. Most previous research has used the MDQ or similar checklists and has often implied that menstruation is a highly negative and debilitating event. Therefore, the Menstrual Attitude Questionnaire was developed so that other dimensions, such as menstruation as a positive event, could be explored. Furthermore, symptom scales do not represent all attitudes and beliefs concerning menstruation, as the authors found expected symptoms to be related to only two of the five attitude dimensions. Finally, when other attitudinal information was gathered, women seemed to perceive the effects of menstruation as relatively minor and seemed to accept them rather routinely. It appears that beliefs about menstruation are complex, involving differential perceptions of physical versus psychological symptoms and a variety of menstrual attitudes.

Moos (1977) acknowledges that attitudes and expectations are among the many factors that mediate menstrual cycle response although

he rejects the notion that menstrual cycle symptomatology can be explained simply on the basis of stereotypic response. He points out that attitudes may be directly related to a woman's actual symptoms since women who experience more symptoms probably expect more symptoms in subsequent menstrual cycles.

Although physiological experience of menstruation is clearly important, the previously discussed findings of Ruble's (1977) study indicate that social expectation influences the reporting of symptoms, even when the woman is not in the premenstrual or menstrual phases. Furthermore, several studies have found that a woman's sociocultural role is related to her experience of menstruation. Paige (1973) concludes that although fluctuation of hormone levels cannot be overlooked, the "blues may be born of the pervasive, negative cultural attitudes about menstruation generally and menstrual blood specifically . . . women have perfectly good reasons to react emotionally to reproductive events . . . her reproductive abilities define her femininity; other routes to success are only second-best in this society." Thus, a relationship is implied between menstrual cycle symptomatology, cultural expectations concerning menstruation, and the traditional female role.

Earlier theorizing about menstrual symptomatology tends to view reports of distress as a reflection of a woman's "rejection" of femininity. Menninger (1939) explains the syndrome as follows:

> The envy of the male cannot be repressed and serves to direct her hostility in two directions: she resents the more favored and envied males while secretly trying to emulate them, and at the same time she hates and would deny her own femaleness.

Berry and McGuire (1972) found evidence that women who experience the most discomfort associated with menstruation are less likely to accept other aspects of their sexual role. The measures used were the Moos Menstrual Distress Questionnaire and a role-acceptance scale consisting of items which reflect whether or not a subject likes being a woman, feels positive about having and nursing babies, accepts menstruation as a normal routine, accepts the more dominant social role of men, and has conflicts about sexuality.

The authors conclude that while the study supports the concept that acceptance of female role is negatively correlated with menstrual symptoms, similar support is lacking for the idea that such symptoms are psychological in origin. It would not be surprising, they say, that most women would be unhappy with a role which required discomfort in their lives. If menstrual symptoms are to be viewed as psychosomatic, further evidence will have to be found.

May (1976) cites evidence that also supports the idea of a relationship between premenstrual or menstrual distress and rejection of the female role. He found significant differences between women who reported their lowest mood to be during the premenstrual phase and those women who reported their lowest mood to be during the menstrual phase, on the variables of religious upbringing and attitudes toward sexuality. He concludes that the premenstrual group were less traditional (less religious and more positive attitudes towards sex), hypothesizing that these women emotionally reject the fact of menstruation. Menstruation, he says, may be seen as a sign of helplessness, threatening one's sense of strength and free will. Thus, women who experience premenstrual

symptoms may reject certain aspects of the feminine role, and may be less traditional.

Other researchers refute the position that women who reject the traditional female role have greater menstrual symptomatology. Both Douvan & Adelson (1966) and Gough's (1975) studies found a relationship between high femininity and reported discomfort during menstruation. Gough found that women with higher MDQ total distress scores tended to have higher scores on femininity and lower scores on dimensions of well-being, tolerance, good impression, achievement via conformity, intellectual efficiency, and self control (as measured by the California Psychological Inventory). He also used the Personal Values Abstract (derived from the CPI) and found that women classified as high on femininity, low on modernity, and low on socialization reported the highest amount of menstrual distress. According to Gough these women are "often seen as shy, given to self-doubt, eager to seek help from others, and tending to behave in a self-defeating way." The least menstrual distress was reported by women classified as low on femininity, low on modernity, but high on socialization. Gough suggests that these women are often "appreciative, cautious, conventional, stable, and unemotional (p. 63)." He found no relationship between the Rotter Internal-External Control Scale and MDQ total distress scores.

Paige (1973) also found that the highly feminine woman tends to report greater menstrual and premenstrual distress. To see what social and psychological factors might relate to a woman's having menstrual distress, Paige explored two areas. First, she examined the possibility that women use menstruation to "explain" bodily discomfort and

psychological stress that in fact have their origin in other events. The results showed that the woman who has physical and psychological stress during menstruation does tend to report such symptoms in other situations as well (measured by a psychological stress and general illness behavior inventory). She is generally anxious and nervous, responds to stress with physical symptoms, and tends to act on signs of illness by taking drugs.

Paige went on to explore the relationship between the three dimensions of femininity, menstrual distress, and religion. She found each religious group (Catholic, Protestant, Jewish) to be equally as likely to report menstrual symptoms, these symptoms having different origins and meanings to each religion. For instance, among Jews, the one dimension that most strongly related to menstrual symptoms was adherence to menstrual taboos and rituals (social behavior). Jewish women who think that sex during menstruation is unenjoyable and embarrassing and who follow a variety of social and hygienic rituals during their periods are those most likely to have menstrual problems. It is difficult to say much about Protestant women as a group, since they were more heterogeneous in background and religious training. However, Paige (1973) reports an interesting picture of Catholic women's responses to menstruation.

Paige found that Catholic women were more likely to consider menstrual distress as an integral part of the traditional female role. Those who believe that a woman's place is in the home and have no personal career ambitions are the ones found most likely to have severe menstrual symptoms--especially if they are virgins. Virginity or sexual

experience had no effect on menstrual distress for Protestants and Jews. Thus, concludes Paige, "the traditionally feminine woman is the one who tends to get the cramps and the blues" (p. 46), and the cultural and social origins of attitudes toward women and menstruation must be taken into account when studying menstrual distress and experience.

Other researchers have attempted to explore the relationship of sexuality and menstrual distress. Sherfey (1972) suggests that premenstrual tension may be due to sexual frustration stemming from heightened but suppressed sexual drives which are not allowed proper outlets. Tarpin (1975) relates sexual behavior and attitudes with menstrual distress, the dimensions being measured by the Menstrual Distress Questionnaire and the Sex Behavior Questionnaire. She found that small group discussions resulted in increased sexual satisfaction, decreased sexual hostility, and reduction of reported menstrual distress. A somewhat related study suggests that women who report fewer symptoms on the MDQ have more positive attitudes about their bodies (DiNardo, 1974). Gough (1975), however, did not find a relationship between sexual knowledge, attitudes, or practices and MDQ total symptom scores.

Several studies have explored the importance of menarche to the adolescent girl, hypothesizing that menarche is a pivotal event in the adolescent's reorganization of her body image and sexual identity. Since lifelong attitudes may be influenced by events around a girl's first menstruation, knowledge about what influences her beliefs and attitudes is important.

Haft (1973) conducted an exploratory study of the adolescent's acceptance of the traditional female role and her response to menstruation.

She tested 190 junior high school level girls, ranging in age from 12 to 15. Results showed low but significant correlations of the semantic differential rating of "menstruation" with ratings of the concepts "myself" and "my body" ($r = .20$, $r = .21$). A significant correlation of .24 was also found between ratings of "menstruation" and scores on the Douvan and Adelson Femininity Index. Haft concluded that there is a tendency for a girl's evaluation of menstruation to correspond to her self-evaluation of herself and her body. Furthermore, the evaluation of menstruation was more positive as the girl showed greater acceptance of the "traditional female role." Haft cautions, however, that due to the nature of the Femininity Index, a low score may merely mean that a girl does not emphasize traditional feminine interests and activities, not that she is necessarily "rejecting" femininity.

According to Whisant and Zegans (1975), postmenarcheal girls report experiencing themselves as more womanly after menarche and begin to contemplate their future reproductive role. Associated with these changes is a greater general awareness and differentiation of male and female bodies, as assessed by human figure drawings (Haworth & Normington, 1961). Koff, Rierdon, and Silverston (1978) also assessed adolescent girls' human figure drawings, the drawings being produced six months apart. Three groups of subjects were studied: girls who were premenarcheal on both test occasions, girls who were postmenarcheal on both occasions, and girls who changed menarcheal status between the two test administrations. Both longitudinal and cross-sectional comparisons found postmenarcheal girls to produce more sexually differentiated human figure drawings.

Furthermore, Koff et al. found postmenarcheal girls to indicate greater satisfaction with "female" body parts on a modified body-cathexis scale. This was presumed to indicate the girl's self-concept as a sexually maturing female. The authors conclude that the data supports clinical formulations of menarche as a pivotal event for reorganization of the adolescent girl's body image and sexual identity.

Thus, there seems to be a relationship between a woman's sexual identity and her experience of her physical self. Sex role orientation and the menstrual experience are pieces of this spectrum. So far, findings have been inconsistent as to what the relationship is between sex role orientation and menstrual attitudes and symptom/changes. However, evidence suggests that sociocultural expectations play a large part in both a woman's sex role orientation and her experience of menstruation. Further research is needed to better understand the interrelationship of physiological, psychological, and cultural factors and their contribution to women's experience of menstruation.

Summary and directions for research

An examination of the literature regarding menstruation raises several questions and points out some important directions for further research. One direction involves the use of behavioral baselines and control groups. In view of the growing evidence that cyclic phenomena are found in all humans, behavioral baselines for both men and women should be established. Further use of control groups, such as men and women using oral contraceptives, would be useful in better understanding the effects of menstruation. However, a consistent pattern of menstrual effects associated with oral contraceptives has yet to emerge.

Wilcoxin et al. (1976) found differences between the two groups of women (with oral contraceptives/without oral contraceptives) but noted that these could not yet be attributed to the physiological effects of the pill, since self-selection, rather than random assignment determined which women were or were not taking oral contraceptives.

Another suggestion by Wilcoxin et al. (1976) involves the assessment of environmental factors in the woman's life. They suggest that further studies of psychological reactions to the menstrual cycle include objective accounts of the person's life events as well as sociocultural definitions of stress and the menstrual cycle, as environmental factors may affect the mood and behavior of subjects.

A further direction for research involves examining the relationship between sociocultural beliefs and expectations, menstrual attitudes, and actual cyclical symptoms/changes. What exactly are self-reports measuring? How do these factors relate to sex role orientation? The latter question is the focus of this study.

STATEMENT OF PURPOSE AND HYPOTHESES

The intention of this study is to further explore the relationship of the menstrual experience with sex role orientation. In the past, many theorists viewed the woman who had menstrual symptoms as "neurotic." The presence of symptoms were seen as evidence of the woman's rejection of femininity. Recent studies have found that women with menstrual symptoms are less likely to accept certain aspects of their feminine role (Berry & McGuire, 1972), and that an adolescent's evaluation of menstruation is more positive as the girl shows greater acceptance of the "traditional female role" (Haft, 1973).

Others have refuted the position that women who have menstrual problems are denying their femininity. Both Adelson and Douvan (1966) and Gough (1975) report a relationship between high femininity and reported discomfort during menstruation. Paige (1973) also concluded that "the traditionally feminine woman is the one who tends to get the cramps and the blues", and suggests that many menstrual symptoms are culturally induced.

Most past researchers in this area have used measures of femininity that assess only the presence or absence of feminine traits, assuming that femininity and masculinity are bipolar opposites (i.e., femininity is the absence of masculinity and vice versa), or that equate femininity with participation in traditionally female activities and interests (i.e., raising children, cooking). Due to the nature of these

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measures, a low score may merely mean that a woman does not emphasize traditional activities, but does not necessarily indicate a "rejection" of femininity. On the other hand, a woman who measures very high on femininity may exhibit many traditionally masculine traits as well.

Thus, this study has used the Bem Sex Role Orientation Inventory (BSRI), a measure that allows for the presence of both "feminine" and "masculine" traits in one individual. It is a measure of personality traits, not of interests and activities. It seems important to further examine the relationship of the menstrual experience with sex role orientation, using a measure that is based on a dualistic concept of sex role.

That differentiating women according to their sex role orientation may be helpful in explaining response to menstruation is supported by observations made by Brooks-Gunn and Ruble (in press). They theorized that a subgroup of women may actually deny any menstrual effects, while others may believe in severe and debilitating effects. Such individual differences may help explain the lack of a significant relationship between menstrual related expectation and behavior when data for all women are grouped together.

The hypotheses of this study stem from several assumptions concerning the relationship of a woman's sex role orientation with her experience of menstruation. These assumptions are: 1) A highly feminine woman may report a more negative menstrual experience, or a greater number of menstrual related symptoms, as she is more likely to have accepted a stereotypical view of women and menstruation. 2) A highly masculine woman may report a lesser number of menstrual

related symptoms. As she is less traditional in her own behavior, she is less likely to have accepted stereotypical views of women and menstruation. She may even go so far as to say that there are no "real" effects of menstruation, "denying" the effects of menstruation (as the terms "deny" and "denial" are conceptualized in the Menstrual Attitude Questionnaire). 3) Bem (1975) talks about the flexibility of the androgynous person. An androgynous person does not restrict her/his behavior in accordance with dichotomous, cultural definitions of sex appropriate behaviors, but can choose from a whole range of behaviors those which are most appropriate to a particular situation. Washbourn (1977), in her writing of the first menstruation of a growth "crisis", also emphasizes that polarities need to be integrated--that the young woman must integrate the negative and positive aspects of menstruation. Thus, it would seem that androgynous persons may be better able to integrate the "positive" and "negative" aspects of menstruation. The androgynous woman may be able to acknowledge the role of menstruation in her life without seeing it as a sickness or as so debilitating as to interfere greatly with her lifestyle. The androgynous woman may be even more in touch with the positive aspects of the menstrual experience.

The following hypotheses have been developed from the above assumptions and findings of past research:

I. Women defined as feminine on the BSRI will report a significantly greater amount of menstrual symptoms on the menstrual portion of the Menstrual Distress Questionnaire (MDQ) than women in all other sex role categories combined.

II. Women defined as feminine on the BSRI will report a significantly greater amount of menstrual symptoms on the menstrual portion of the MDQ than women defined as androgynous.

III. Women defined as masculine on the BSRI will report a significantly lesser amount of menstrual symptoms on the menstrual portion of the MDQ than women in all other sex role categories combined.

IV. Women defined as feminine on the BSRI will score significantly higher on the Debilitation, Bothersome, and Prediction/Anticipation dimensions of the Menstrual Attitude Questionnaire (MAQ), and significantly lower on the Positive and Denial dimensions of the MAQ, than women in all other sex role categories combined.

V. Women defined as feminine on the BSRI will score significantly higher on the Debilitation, Bothersome, and Prediction/Anticipation dimensions of the Menstrual Attitude Questionnaire (MAQ), and significantly lower on the Positive and Denial dimensions of the MAQ, than androgynous women.

VI. Women defined as androgynous by the BSRI will have a more positive attitude toward menstruation, as measured by the Positive dimension of the MAQ, than women in all other sex role categories combined.

VII. Women defined as masculine on the BSRI will deny the effects of menstruation significantly more than women in all other sex role categories combined, as measured by the Denial dimension of the MAQ.

METHOD

Subjects

The subjects used in the study were 105 Michigan State University undergraduate women (mean age = 18.84). The women were predominantly from the Freshman and Sophomore classes. Almost all were Caucasian (90 percent) and in the highest three social classes of Hollingshead's five social classes (Hollingshead & Redlick, 1958).

The subjects were recruited from an introductory psychology class and asked to participate in a study entitled "Physiological Factors in Women's Personality." One hundred eighty-four women completed questionnaires which included various demographic and health information questions. The final sample of 105 was selected according to several pre-determined criteria. These were 1) that the woman has never given birth to a child, 2) that the woman is not married, 3) that the woman has not received medical treatment for menstrual problems, and 4) that the woman was not currently using oral contraceptives or an IUD, or has not done so in the previous two months. Previous studies had suggested that these factors affect a woman's menstrual experience in various ways. Thus, it was decided to restrict this project to the study of young women's experience of menstruation, using subjects who have not altered their hormonal cycles and who are less likely to have serious physiological difficulties.

Measures

Marlowe-Crowne Social Desirability Scale (SDS): The SDS is a 33 item true-false scale that was developed as an alternative to the Edwards Social Desirability Scale (Marlowe & Crowne, 1964). The authors carefully chose items which reflected behaviors that are culturally sanctioned and approved, but which are highly improbable in occurrence. They believe that this measure is more appropriate for tapping the test taking behavior of a normal population such as college students. The authors report a reliability coefficient of .88 for internal consistency, and of .89 for test-retest reliability.

Bem Sex Role Inventory (BSRI): The BSRI (Berm & Watson, Note 1) consists of 60 traits: 20 that have been rated as "masculine", 20 that have been rated as "feminine", and 20 that have been rated as neutral. Subjects are asked to rate themselves on a seven point scale ranging from "never or almost never true of me" to "always or almost always true of me" as to how well each of the characteristics describe themselves.

Originally, Bem defined the degree of sex role stereotyping in a person's self-concept as Student's t-ratio for the difference between the total points assigned to the masculine and feminine attributes. If a person's masculinity and femininity scores were approximately equal, she was said to have an androgynous sex role. Bem (1977) has since adopted a scoring system based on a median split technique, the androgynous person now being defined as one who is relatively high on both the masculine and feminine dimensions (i.e., has scores above the median masculinity and femininity total scale scores). Those

subjects whose scores fall above the median masculinity score but below the median femininity score are said to have a masculine sex role orientation. Those subjects who score above the median femininity score but below the median masculinity score are said to have a feminine sex role orientation. Finally, those subjects whose scores fall below both the masculinity and femininity medians are said to be undifferentiated in regards to sex role orientation.

Bem reports that psychometric analyses of the BSRI indicate it is quite satisfactory as a measuring instrument. Masculinity and femininity scores were found to be empirically as well as conceptually independent. Moreover, the t-ratio was found to be internally consistent (average alpha coefficient was .86), reliable over a four week interval (average r was .94), and uncorrelated with the tendency to describe oneself in a socially desirable manner (average r was -.06).

Moos Menstrual Distress Questionnaire (MDQ): Moos has developed a 47 item questionnaire to assess menstrual cycle symptomatology, eight factors scales emerging from factor analytic study of the items. The MDQ asks women to rate their experience of the 47 symptoms on a 6 point scale, ranging from "no experience of symptom" to "acute or partially disabling". The woman receives a score for each of the eight factor scales in each of the three cycle phases she is teated for (menstrual phase, intermenstrual phase, premenstrual phase).

The MDQ has been used extensively since its development in 1968. Moos (1977), in a comprehensive review of research using the MDQ, concludes that the statistical and psychometric characteristics of the MDQ seem to be adequate. All scales (except arousal and control) show

large differences between menstrual and intermenstrual, and between premenstrual and intermenstrual phase scores. The internal consistencies are all in an acceptable range, with split half reliabilities varying from r's of .74 to .98 (all statistically significant). Intercorrelations among the eight scales are all positive, indicating that there is a tendency for women who score high on one scale to also score high on others. In addition, if a woman is high on a scale in the menstrual phase, she also tends to score high on that scale in the premenstrual and intermenstrual phases.

A study of the inter-cycle stability of MDQ scores (Markum, 1976) showed high and statistically significant stability (varying from r's of .81 to .96) for both the experimental and control groups for all three of the menstrual cycle phases except for the menstrual cycle phase of the experimental group. Moos concludes that women tend to complain of generally consistent symptomatology from one menstrual cycle to another, but that there may be inter-cycle variability, particularly in the menstrual cycle phase. Based on these results, Moos cautions that symptom complaints obtained retrospectively, e.g., for the most recently completed cycle, may or may not be correlated significantly with symptom complaints obtained during the current menstrual cycle. Thus, investigators should be cautious about inferring current symptom complaints from retrospective symptom reports.

Other researchers have also cautioned against extensive reliance on the Menstrual Distress Questionnaire because of the retrospective nature of the measure. Parlee (1973) also notes that the 839 subject normative sample included 420 women taking oral contraceptives, 81

pregnant women, and 40 women not answering the questions concerning contraceptive use. She questions the methodological soundness of the questionnaire, since differences in response to the MDQ have been found between women taking oral contraceptives and women who are not taking oral contraceptives.

The Menstrual Distress Questionnaire has been used in this study for several reasons, the first being simply that the MDQ has been extensively used in research regarding menstruation. Secondly, as Brooks et al. (1977) point out, just because the MDQ may be measuring stereotypic responses toward menstruation doesn't mean that this information is not useful. It is also important to study women's attitudes toward menstruation, and their perceptions of the menstrual experience. Finally, this study was also an attempt to replicate Brooks et al. previous research of the relationship of the MDQ with the Menstrual Attitude Questionnaire.

The Menstrual Attitude Questionnaire (MAQ): The Menstrual Attitude Questionnaire (Brooks, Ruble, & Clark, 1977) was developed in order to explore women's attitudes toward menstruation and to examine possible dimensions or styles of coping related to menstruation. The questionnaire also allows for the expression of more positive aspects of menstruation. Subjects indicate on a 7 point scale how much they agree or disagree with 33 statements concerning menstruation. Five factors were identified through factor analysis.

The factors were checked for internal consistency. Congruence between factors across two different samples was high (coefficients from .77 to .91), low between different factors (except for debilitation

dimension in the authors' Sample 1 and prediction dimension in their Sample 2 having a high degree of congruence (.87). Cronbach's alpha coefficients were calculated for each factor. Scale homogeneity was high, ranging from .95 to .97 in both samples, except for the denial factor in Sample 1 (.90).

Brooks-Gunn and Ruble (in press) have also developed a form of the Menstrual Attitude Questionnaire for college men and adolescent girls (Brooks-Gunn & Ruble, Note 2).

RESULTS

Premenstrual, Menstrual and Intermenstrual Behavior

Consistent with previous research, women reported a higher incidence of symptoms in the premenstrual phase than in the intermenstrual phase (Brooks et al., 1977). Women also reported a higher incidence of symptoms in the menstrual phase than in the intermenstrual phase. The mean data for the eight symptom scale of the Menstrual Distress Questionnaire for reported menstrual, premenstrual and intermenstrual symptoms, the standard deviation of the scale means, and the tests of significance between the cycle phases on each scale are presented in Table 1.

As can be seen, the women reported more water retention, pain, negative affect, behavioral change, autonomic reactions, and less concentration in the menstrual than in the intermenstrual conditions. The menstrual-intermenstrual differences were greatest for the water retention, pain, and negative affect scales.

Regarding the premenstrual-intermenstrual differences, the women reported more water retention, negative affect, pain, behavioral change, and less concentration in the premenstrual than in the intermenstrual conditions. The differences were greatest for water retention, negative affect and pain, these findings being consistent with past research (Brooks et al., 1977).

Finally, the women reported more pain, behavioral change, autonomic reactions, negative affect, and less concentration in the menstrual

Table 1

Means and Standard Deviations and Dependent t-Tests between Scales for Menstrual, Premenstrual and Intermenstrual Phases***

Symptom Scales	Menstrual		Intermenstrual		
	Mean	SD	Mean	SD	t-Test
Water retention	2.40	.96	1.48	.67	12.28**
Pain	2.40	.99	1.48	.66	11.63**
Negative affect	2.32	1.11	1.55	.74	10.43**
Behavior changes	1.57	.59	1.16	.32	8.57**
Concentration	1.40	.46	1.17	.29	6.98**
Autonomic reactions	1.42	.71	1.07	.23	5.59**
Control	1.16	.34	1.08	.22	4.06**
Arousal	2.05	.94	2.05	1.05	- .02

Symptom Scales	Premenstrual		Intermenstrual		
	Mean	SD	Mean	SD	t-Test
Water retention	2.34	1.02	1.48	.67	10.20**
Negative affect	2.10	1.56	1.08	.74	7.15**
Pain	1.93	.96	1.47	.66	6.28**
Concentration	1.32	.48	1.17	.29	4.33**
Behavior changes	1.31	.46	1.16	.32	3.92**
Autonomic reaction	1.19	.42	1.07	.23	3.64**
Control	1.16	.35	1.08	.22	3.59**
Arousal	1.97	.97	2.05	1.05	- 1.65

Symptom Scales	Menstrual		Premenstrual		
	Mean	SD	Mean	SD	t-Test
Pain	2.40	.99	1.93	.96	6.46**
Behavior changes	1.57	.59	1.31	.46	5.30**

Table 1 (cont'd)

Symptom Scales	Menstrual		Premenstrual		
	Mean	SD	Mean	SD	t-Test
Autonomic reaction	1.42	.71	1.19	.42	3.69**
Negative affect	2.32	1.11	2.10	1.08	3.39**
Concentration	1.40	.46	1.32	.48	2.65*
Arousal	2.05	.94	1.97	.97	1.81
Water retention	2.39	.96	2.34	1.02	.77
Control	1.16	.34	1.16	.35	.27

* $p < .01$

** $p < .001$

***Two-tail tests

than in the premenstrual phase. These differences were greatest for the pain and behavior change scales.

Attitudes Toward Menstruation

Five attitude dimensions have been identified by Brooks et al. (1977). The means for each of these dimensions, the percentage of subjects agreeing (scale score of 4.00 to 7.00), and the percentage of subjects disagreeing (scale score of 1.00 to 3.99) with each dimension are presented in Table 2. It should be noted that one item from the original Menstrual Attitude Questionnaire was accidentally deleted, so the factor score and mean score were figured with one less item.

In general, the mean data suggests that menstruation was seen as slightly positive, slightly bothersome, and slightly predictable, and was not perceived as very debilitating. Yet, the women did not deny that menstruation had some effects. As the percentage data indicate, however, there were individual differences with respect to women.

The picture suggested by the mean data is similar to that of Brooks-Gunn and Ruble's (in press) Sample 2. However, the women in this sample tended to see menstruation as more predictable, and tended to deny the effects of menstruation to a greater extent than the women in Brooks et al.'s Sample 1.

Interrelationships Between Reported Symptoms and Attitudes Toward Menstruation

Table 3 presents the Pearson product moment correlation between the five attitude dimensions and the difference scores between reported premenstrual and intermenstrual conditions and menstrual and intermenstrual conditions, for the eight symptom scales. The intermenstrual

scores were used as a baseline in order to control for general symptom severity, as the interest was in cycle phase effects.

Women who believed that menstruation was debilitating and predictable reported significantly higher symptom scores for the premenstrual phase than women who were less likely to believe menstruation was debilitating and predictable. Women who tended to deny the effects of menstruation reported significantly lower symptom scores on the negative affect and pain scales in the premenstrual phase than women who were less likely to deny the effects of menstruation. In general, menstruation as a bothersome event and menstruation as a positive event were not related to cycle effects.

Women who believed that menstruation was debilitating and predictable reported significantly higher symptom scores for the menstrual phase than women who were less likely to believe menstruation was debilitating and predictable. Women who tended to deny the effects of menstruation reported significantly lower symptom scores in the menstrual phase than women who were less likely to deny the effects of menstruation. In general, menstruation as a bothersome event and menstruation as a positive event were not related to cycle effects.

Sex - Role Orientation

The 184 female undergraduates from which the sample was selected had a mean masculinity score of 4.82, with a standard deviation of .71. The mean femininity score was 5.04, with a standard deviation of .50.

For the 279 Stanford University undergraduate women in Bem's (1974) sample, the mean masculinity score was 4.57, with a standard

Table 2

Summary Statistics for the Five Dimensions of the Menstrual Attitude Questionnaire

Dimension	Summary Statistics			
	Mean (N=105)	SD	% Subjects Agree	% Subjects Disagree
Debilitating	3.35	.99	27	73
Bothersome	4.60	1.02	70	30
Positive	4.54	.83	83	17
Predictable	4.73	1.26	72	28
Denial	3.36	.98	27	73

Table 3

Correlations between the Five Attitude Dimensions and the Cycle Difference Scores for the Eight Symptom Scales

Symptom scale difference scores premenstrual phase	Attitude Dimensions				
	Debilitation	Bother	Positive	Anticipation	Denial
Water retention	.02	-.02	.08	.24*	-.04
Negative affect	.22	.08	.05	.54**	-.25*
Pain	.22	--	--	.38**	-.24*
Behavior change	.19	.06	-.13	.42**	-.14
Concentration	.26*	.09	-.04	.33**	-.15
Arousal	-.08	-.17	.10	-.06	.06
Autonomic reaction	.19	--	--	.15	-.15
Control	.10	-.17	.06	.13	-.03

Symptom scale difference scores menstrual phase	Attitude Dimensions				
	Debilitation	Bother	Positive	Anticipation	Denial
Water retention	.12	-.03	.06	.29**	-.14
Negative affect	.42**	.13	.13	.57**	-.41**
Pain	.41**	.06	.02	.45**	-.40**
Behavior change	.40*	.18	-.07	.38**	-.33**
Concentration	.33**	--	.04	.42**	-.20
Arousal	-.22	-.18	.14	-.15	.03
Autonomic reaction	.27*	.11	.09	.19	-.25*
Control	.29**	-.18	.16	.25*	-.19

* $p \leq .01$

** $p \leq .001$

deviation of .69, and the mean femininity score was 5.01, with a standard deviation of .52.

The percentage of women in each sex-role category as defined by a median split for both masculinity and femininity is as follows: Androgynous, 24 percent; Feminine, 27 percent; Masculine, 26 percent; and Undifferentiated, 23 percent. The percentage of women in various sex-role groups in Bem's sample are: Androgynous, 29 percent; Feminine, 34 percent; Masculine, 16 percent; Undifferentiated, 20 percent.

Hypothesis 1

Hypothesis 1 predicted that women defined as feminine on the BSRI would report a significantly greater amount of menstrual symptoms on the menstrual portion of the Menstrual Distress Questionnaire (MDQ) than women in all other sex-role categories combined. A chi-square analysis found no significant relationship between sex-role orientations and level of reported menstrual symptoms (level determined by median split of symptom means).

In addition, a multiple regression equation was calculated with the dependent variable being the difference score on the menstrual phase of the MDQ and the independent variables being social desirability, masculinity, and femininity. With social desirability controlled, neither masculinity nor femininity were found to be significant predictors of reported menstrual symptoms.

Hypothesis 2

Hypothesis 2 predicted that women defined as feminine on the BSRI would report a significantly greater amount of menstrual symptoms

on the MDQ than women defined as androgynous. A chi-square analysis found no significant difference between feminine and androgynous women in level of reported symptoms.

Hypothesis 3

Hypothesis 3 predicted that women defined as masculine on the BSRI would report a significantly lesser amount of menstrual symptoms than women in all other sex-role categories combined. This hypothesis was not supported, as a chi-square analysis found no significant relationship between masculinity and level of reported menstrual symptoms.

In addition, as described in the discussion of Hypothesis 1, a multiple regression equation was calculated in order to see if the BSRI scores were significant predictors of menstrual symptoms. Neither masculinity nor femininity were found to be significant predictors of reported menstrual symptoms.

Hypothesis 4

Hypothesis 4 predicted how women who are defined as feminine on the BSRI would view menstruation, as measured by the Menstrual Attitude Questionnaire. Women defined as feminine were predicted to score significantly higher on the Debilitating, Bothersome, and Prediction dimensions of the MAQ, and significantly lower on the Positive and Denial dimensions of the MAQ, than women in all other sex-role categories combined. Five chi-square analyses were performed, finding a significant relationship between femininity and level of agreement with the Debilitation dimension ($p \leq .05$) and the level of agreement with the Denial dimension ($p \leq .005$).

In addition, five multiple regression equations were calculated, the dependent variables being each of the five attitude dimensions. Controlling for social desirability, masculinity and femininity were both found to be moderate, though significant, predictors of the attitude of seeing menstruation as a debilitating experience. Increasing femininity ($p \leq .05$) and decreasing masculinity ($p \leq .05$) significantly predicted the attitude dimension of debilitation.

Femininity was also found to be a moderate, though significant predictor of the denial attitude dimension. Decreasing femininity significantly predicted the attitude dimension of denial ($p \leq .001$). Table 4 contains the significant multiple regression results.

Hypothesis 5

Hypothesis 5 predicted women defined as feminine on the BSRI would score significantly higher on the Debilitating, Bothersome, and Prediction dimensions, and significantly lower on the Positive and Denial dimensions of the MAQ than androgynous women. This hypothesis was not supported, as five chi-square analyses failed to find a significant difference in attitudes between these two groups of women.

Hypothesis 6

Hypothesis 6 predicted that women defined as androgynous by the BSRI would see menstruation more positively, as measured by the Positive attitude dimension of the MAQ, than women in all other sex-role categories combined. This hypothesis was not supported, as a chi-square analysis found no difference in positive attitude between groups.

Table 4.

Regression Analyses*

Menstrual Variable	Independent Variable	Multiple R	Simple R	Overall F	Probability
Debilitation	Social Desirability	.20	-.20	4.01	.05
	Masculinity	.30	-.25	4.56	.04
	Femininity	.35	.18	3.94	.05
Denial	Social Desirability	.14	.14	1.88	.17
	Masculinity	.23	.20	2.15	.15
	Femininity	.42	-.35	15.26	.001

*Two step multiple regressions were performed, with the first step being the social desirability variables. Masculinity and femininity were entered as one step as there were no hypotheses about which variable had a more primary causal relationship with the criterion variable.

Hypothesis 7

Hypothesis 7 predicted that women defined as masculine on the BSRI would tend to deny the effects of menstruation significantly more than women in all other sex-role categories combined, as measured by the Denial dimension of the MAQ. This hypothesis was supported, as a chi-square analysis found masculine women to score at a significantly higher level on the attitude of denial than all other women combined ($p \leq .01$).

As previously discussed under Hypothesis 4, a multiple regression equation was also calculated with the dependent variable being the Denial dimension of the MAQ, and the independent variables being social desirability and the masculinity and femininity scores on the BSRI. Decreasing femininity was found to significantly predict the Denial dimension ($p \leq .001$).

DISCUSSION

Relationship of Sex Roles to Menstrual Variables

The overall results of this study suggest that there is a relationship between sex role orientation and at least some aspects of the menstrual experience. The psychological dimensions of masculinity and femininity as measured by the Bem Sex Role Inventory were found to be moderate but significant predictors of the attitude of seeing menstruation as a debilitating experience and the attitude of denial of the effects of menstruation.

The thesis of this study, that there is a relationship between sex role orientation and menstrual experience, is based on the assumption that sociocultural beliefs do play a role in menstrual attitudes and expectations. To the extent that a woman's feelings about her psychological and physical self are influenced by expectations of what a woman "should be", her sex role orientation will be related to how she experiences menstruation.

The results support this more sociocultural view insofar that women who are stereotypically "feminine" as defined by the BSRI are more likely to see the menstrual experience as debilitating than women who are not stereotypically feminine. Furthermore, women who were defined by the BSRI as "masculine" were least likely to see menstruation as debilitating. Women who are "masculine" as defined by the BSRI tend to deny the effects of menstruation more and report

menstruation to be less debilitating than women who are not "masculine". No significant differences were found between sex role groups on attitude dimensions of positive, bothersome, and anticipation/prediction, nor on the actual reporting of menstrual cycle changes.*

These findings are interesting in terms of Brooks-Gunn and Ruble's theorizing (in press). They hypothesized that a group of women may "actively deny" any menstrual effects, while another group sees menstruation as extremely debilitating, and that such individual differences may help explain the lack of significant relationships between menstrual-related expectations and behavior when data for all women are grouped. The results of this study support this theory, as it is on the dimensions of debilitation and denial that group differences based on sex role orientation were found. Thus, sex role orientation appears to be one of the individual differences involved in the subgrouping of women regarding their menstrual attitude.

Some discussion of the concepts "denial" and "debilitation" seem called for here. For instance, does denial refer to conscious or unconscious processes? Is it overt or covert? For the purposes of this study, denial and debilitation referred to a woman's response to various items on the Menstrual Attitude Questionnaire. Examples of denial would be relative agreement with such statements as "a woman who attributed her irritability to her approaching menstrual period is neutoric" and "cramps are bothersome only if one pays attention to them." What such responses indicate about a women's personality, if anything, is open to speculation.

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*As one of the focal points of this study is to explore the more positive aspects of menstruation and to go beyond the "disease" model, I will attempt to avoid words such as "symptom", "distress", etc., throughout the discussion section.

Brooks-Gunn & Ruble (in press) use the words "actively deny", which seem to connote a sense of conscious purpose. Perhaps some women, in attempting to overcome traditional stereotypes of women and menstruation, are unwilling to have cycle changes laid at the doorstep of physiology. However, it is an open question whether women described as masculine in this study really do experience a lesser amount of menstrual effects than other women. Perhaps they simply do not see such effects as important, or they do not label them as menstrual related. Or, they may not be as sensitive to internal physiological changes as women defined as feminine, i.e., they may be more externally oriented. Another possibility is that women defined as feminine on the BSRI are more apt to complain about psychological and physiological effects, and/or women defined as masculine are more stoic. And, if women defined as masculine in this study do physically experience a lesser amount of menstrual effects, what factors might account for this? Physical activity level? Other mediating factors? Finally, it should be noted, that as a group, women who were defined as highly masculine as well as highly feminine (androgynous), did not report extreme attitudes concerning denial or debilitation. They appear to be somewhere in-between the low denial-high denial and low debilitation-high debilitation poles.

If sex role orientation is an important contributor to the menstrual attitudes of debilitation and denial, why is it not found to be significant in relation to the other menstrual attitudes measured by the Menstrual Attitude Questionnaire or for self-report of cycle changes as measured by the Menstrual Distress Questionnaire? It is

possible that the attitude dimensions of anticipation, positive, and bothersome are not related to sex role orientation. The subgroupings described by Brooks-Gunn and Ruble (in press) may not be around these dimensions. If, as suggested, the literature has overemphasized the negative aspects of menstruation and overlooked that women overall seem to accept the effects of menstruation rather routinely, there may be less variance between women on attitudes such as anticipation, bothersome, and positive.

Although past studies have found a relationship between femininity and self report of cycle changes on measures such as the MDQ (Gough, 1975; Paige, 1973), these findings may have been the result of such factors as population studied and choice of measures. Furthermore, although a relationship between certain MDQ subscales and certain menstrual attitudes has been found and supported by this study, cycle change reports do not represent all attitudes and beliefs concerning menstruation. It may be that other factors are involved in menstrual cycle change reporting that are more significant than sex role orientation, such as social desirability. It may also be that further examination of the MDQ subscales or clusters of cycle effects included in the subscales would give further information on the relationship between menstrual cycle changes and sex role.

Another explanation for the lack of support of those hypotheses relating sex role orientation to three of the menstrual attitudes and the reporting of menstrual cycle changes is the composition of the sample used in this study. To begin with, only women were involved in the study, meaning that the BSRI categories were determined using medians from data gathered exclusively on women. Ideally, Bem and

Watson (Note 1) state that the masculinity and femininity medians should be based on an equal number of men and women combined in a single group. Whether this has reduced the effectiveness of the BSRI as a differentiating device for sex role orientation is difficult to say without a comparison with data gathered from both men and women. However, one can at least view the results as meaningful in terms of women's relative femininity and masculinity, as compared to other women.

Furthermore, the sample is select in that it consists of young, unmarried, childfree women who have not been using oral contraceptives within the past three months of testing and who have not sought medical help for menstrual problems. These women are also select in that they are well educated and able to attend a university. These requirements were used in order to control for any physiological or hormonal differences that might affect cycle change reporting and attitudes toward menstruation, and to control for any possible interaction between sex role orientation and use of oral contraceptives. These possibly confounding factors have not always been examined in previous research. Comparisons of groups such as women using oral contraceptives and women not using oral contraceptives could give some very valuable information.

It is also possible that the statistical analyses used were not sensitive to group differences in this study, and/or that the population sample was not large enough for further group differences to be found. Chi-square tests were used because of the structuring of the BSRI scores into four discontinuous categories. As previously mentioned,

there has been criticism of the median split method of dividing sex role orientation into four discrete and discontinuous categories. A drawback of this scoring method is that it places those who receive scores on two continuous variables, masculinity and femininity, into categories that are dichotomous. Thus, the raw scores of femininity and masculinity were used in a multiple regression equation to determine if these scores had predictive power as hypothesized in the study.

The multiple regression equations found masculinity and/or femininity to be moderate and significant predictors of the attitudes of denial and debilitation, but found no further relationships between sex role orientation and menstrual variables.

There are, however, some problems with the use of multiple regression when using sex role orientation conceptualizations including androgyny. The low correlations of masculinity and femininity with several of the attitude dimensions and with cycle change reports indicate that a large proportion of the variance has not been accounted for in the analyses. This may be because the relationship between sex role orientation and menstrual experience is not simply linear. For instance, women who score as highly feminine on the BSRI may vary as to the amount of cycle changes they report, as some of these women are defined as "feminine" and others are defined as "androgynous" (high in both femininity and masculinity). Theoretically, there are differences between these two groups. Thus, there is not necessarily a one-to-one relationship between femininity and cycle change reporting or masculinity and cycle change reporting. Perhaps what is needed is the use of multiple regression techniques on a larger sample which can be stratified in some way, e.g., looking

at the relationship of femininity to cycle change reporting in a group of women with high masculinity scores and in a group of women with low masculinity scores.

It may also be that the low intercorrelations of the BSRI with other variables is due to the particular measure used. As discussed earlier, the BSRI was chosen because of its dualistic conception of masculinity and femininity, and because it does not rely on the measurement of traditional feminine interests and activities. However, it may be that only certain items or factors on the femininity and masculinity scales of the BSRI are related to menstrual experiences, and item to item correlations might be examined.

In addition, it appears that certain menstrual variables are related to a tendency to try to appear socially desirable, as reported in Table 5. In general, the higher a woman's social desirability score, the lower the amount of reported menstrual phase changes and the lower the degree to which menstruation was seen as predictable/able to be anticipated ($p < .01$, $p < .01$). Because of the relationship of social desirability with these variables, social desirability was a controlled variable in the multiple regression analyses.

Attitudes and Expectations Associated with Menstruation

It is important that the relationship of social desirability with the menstrual experience be further explored. The finding that reports of menstrual phase changes are significantly related to social desirability supports research that suggests that self reports are not accurate representations of actual menstrual related changes, but are related to social expectation (Ruble, 1977; Brooks et al., 1977).

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Brooks et al. point out that the application of research and theory on social expectation to the menstrual cycle suggests that attitudes and expectations about menstruation may themselves affect women's behavior and self-evaluation. For example, if a woman believes that menstruation will have a negative effect on performance, she may be more anxious during an examination. Conversely, if a woman believes that menstruation has only limited effects, she may continue to participate in sports throughout her menstrual period. Thus, social expectations concerning women and menstruation may affect not only a woman's reporting of menstrual behaviors, but also the actual behaviors.

These points lead to the discussion of another purpose of this study, that is, to further explore the expectations and attitudes of women associated with menstruation. The fact that menstrual attitudes can be conceptualized multi-dimensionally has been obscured by past reliance on menstrual cycle change self-reports and the use of bipolar evaluative dimensions. Negative attitudes have been emphasized in the literature even though systematic study of menstrual attitudes has been sparse. The results of this study parallel those of Levitt and Lubin (1967) and Brooks, Ruble, & Clark (1977), as menstruation was perceived as at least slightly positive by 83 percent of the sample. At the same time, 70 percent of the sample perceived menstruation as at least slightly bothersome. Thus, the perception of menstruation as positive does not negate an acknowledgement of the bothersome aspects. Furthermore, although menstruation is seen as debilitating by some, almost three-fourths of the sample did not see it as such, while less than a third of the sample reported that menstruation had

Table 5

Correlation Matrix of Experimental Variables

Experimental Variables	Experimental Variables								
	Soc Des	Masc	Fem	Debil	Bother	Positive	Antic	Denial	Menstrual Effects
Social Desirability	---	.16	.18	-.20	-.19	.14	-.23*	.14	-.28*
Masculinity	.16	---	-.12	-.27*	.10	.12	-.21	.21	-.20
Femininity	.18	-.12	---	.22	.08	.06	.13	-.37**	.17
Debilitation	-.20	-.27*	.22	---	.08	-.03	.67**	-.64**	.43**
Bothersome	-.19	.10	.08	.08	---	-.56**	.10	-.10	.06
Positive	.13	-.12	.06	-.03	-.56**	---	-.04	.03	.06
Anticipation/ Prediction	-.23*	-.21	.13	.67**	-.10	-.04	---	-.67**	.54**
Denial	.14	.21	-.37**	-.64**	.06	.03	-.67**	---	.42**
Total Menstrual Phase Effects	-.28*	-.20	.17	.43**	.03	-.05	.54**	-.42**	---

* $p < .01$

** $p < .001$

little or no effects. Overall it appears that women accept menstruation rather routinely and are not likely to perceive it as overly disruptive, yet they do not deny its effects. Of course, it must be kept in mind that this study deals with college women, a population that may tend to be less traditional in its views of women and menstruation than women in the general population.

The overall picture represented by this study's findings on the Menstrual Attitude Questionnaire and its relationship to the Menstrual Distress Questionnaire is similar to that described by Brooks, Ruble, & Clark. However, this sample tended to report menstruation as being somewhat more bothersome ($p < .01$) and more predictable ($p < .01$), while denying the effects of menstruation to a greater extent ($p < .01$). There were no significant differences between the sample used in this study and a second sample tested by Brooks-Gunn and Ruble (in press). However, the two samples tested by Brooks also differed significantly on the attitude dimensions of bothersome, anticipation/prediction, and denial. Perhaps this reflects sample differences, such as socioeconomic class factors. Brooks first sample consisted of 191 Princeton University undergraduate women, the majority of these women being in the highest two social classes. Her second sample is probably much more like the sample used in this study, as the women attended state colleges of central New Jersey, and were equally distributed among the first four social class categories.

The Menstrual Attitude Questionnaire is an important step in the direction of exploring the menstrual experience in its complexity, opening avenues for understanding both the positive and negative aspects. Although its developers do not claim to have represented all possible

attitudes towards menstruation, they have succeeded in portraying the multidimensional character of the menstrual experience. Further work with this instrument and in the area of menstrual attitudes and expectations is necessary to better understand an important part of women's experience.

Thus, the menstrual experience appears to encompass a complex set of variables, only one of which is sex role orientation. The results of this study do suggest, however, that sex role orientation plays an important role in how women view the effects of menstruation. Masculinity and femininity appear to be important factors in the sub-groupings of college women on these views, as described by Brooks-Gunn and Ruble (in press). (Note that college women may tend to be less traditional than women in the general population, and would thus be more likely to be defined as masculine or androgynous.)

Androgyny and the Menstrual Experience

Although no further light was shed on the possible roles of the androgynous and undifferentiated role stances, one might pose some interesting speculations. The fact that a greater proportion of androgynous persons was not found in either the high or low median split groupings but was actually evently split on almost all menstrual variables, suggests that androgynous persons may be less "extreme" in their views of menstruation, i.e., they do not view menstruation as extremely debilitating, nor do they deny its effects; they do not view menstruation as wholly positive or wholly negative. In other words, androgynous persons may accept both the negative and positive aspects of menstruation, and be able to come to a more integrated

view of the experience. This speculation corresponds to Bem's (1975; 1976) theory and research, portraying the androgynous person as flexible in his/her dealings with the world. Although this study does not point out any differences between the undifferentiated and androgynous groups, research and theory of sex role orientation suggests that the cognitive processing and psychological experience of androgynous and undifferentiated persons do differ. Further research is needed to clarify differences between the various sex role orientations on menstrual attitudes.

The polarities suggested by the traditional stereotypes of "masculine" and "feminine", and by the subgroupings of women around their menstrual attitudes illustrate and reflect the polarities often found in the menstrual literature. Menstruation has usually been portrayed as a negative event, a messy and dirty event which may render a woman "unclean" or "unstable", at least for a period of time. It is also possible to elevate menstruation as being a "sacred" indicator of a woman's ability to bear children, leading to an identification of womanhood with biology. Others treat menstruation as a "disease". Dalton (1977) reports that a great majority of women exhibit at least some "symptoms" of the disease of premenstrual tension. Still others go to the opposite extreme, saying that menstruation has no effects at all, and any effects that are felt are purely psychosomatic. It seems likely, however, that there is at least some truth in all of these extremes. An integration of polarities seems in order.

Washbourn (1977) speaks to these polarities in her analysis of the first menstruation. She sees menarche as a "crisis" in

self-identity, opening up an option for personal growth as well as offering the possibility for a more destructive form of self-interpretation of femaleness. The "graceful" option or experience of menstruation would be to accept it as a symbol of the potential of one's body for the enrichment of self and others, and receiving an increased sense of value as an individual and in the goodness of one's body structure. However, the graceful acceptance of menstruation is possible, says Washbourne, only through recognizing its ambiguous quality. "Menstruation is an ending as well as a beginning, and the ability to experience the new potential opened up by it depends on being able to wrestle with the fears associated with being biologically female (p. 16)." Perceiving female sexuality gracefully involves seeing it within the process of becoming more fully human and overcoming the divisions of masculinity and femininity--speaking to Bem's concept of androgyny.

In summary, the menstrual experience is a complex phenomenon. Physiological, sociocultural, and psychological factors are all involved in a woman's experience of menstruation, sex-role orientation being one of these factors. Further research is necessary to better clarify the relationship of sex role orientation with the menstrual experience and to better understand the various sex role stances. Also, it is important to continue the exploration of women's attitudes toward menstruation and the relationship of these attitudes to physical and psychological experience. Women and men need to explore both their feminine and masculine selves. Likewise, they need to embrace both the positive and negative aspects of menstruation, and come to an integrated resolution.

NOTES

[1]Bem, S. L., & Watson, C. Scoring packet: Bem Sex-Role Inventory. Unpublished manuscript, April 1976. Available from Department of Psychology, Uris Hall, Cornell University, Ithaca, New York 14863.

[2]Brooks-Gunn, Jeanne, & Ruble, D. The Menstrual Attitude Questionnaire. Requests for reprints of articles and for the female, male and adolescent versions of the questionnaire should be directed to Jeanne Brooks-Gunn, Institute for the Study of Exceptional Children, Educational Testing Service, Princeton, New Jersey 08541.

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APPENDICES

APPENDIX A

CONSENT FORM

APPENDIX A

MICHIGAN STATE UNIVERSITY
Department of Psychology

DEPARTMENTAL RESEARCH CONSENT FORM

1. I have freely consented to take part in a scientific study being conducted by:
   Lynn Wendyger

   under the supervision of:
   Dr. Norman Abeles

   Academic Title:
   Physiological Factors in Women's Personality

2. The study has been explained to me and I understand the explanation that has been given and what my participation will involve.

3. I understand that I am free to discontinue my participation in the study at any time without penalty.

4. I understand that the results of the study will be treated in strict confidence and that I will remain anonymous. Within these restrictions, results of the study will be made available to me at my request.

5. I understand that my participation in the study does not guarantee any beneficial results to me.

6. I understand that, at my request, I can receive additional explanation of the study after my participation is completed.

Signed: _____

Date: _____

APPENDIX B

INSTRUCTIONS TO SUBJECTS

APPENDIX B

INSTRUCTIONS TO SUBJECTS

I. This experiment is about menstruation. Past research has suggested that one's experience of menstruation is related to personality style. I am collecting data in order to better understand this relationship, and to find out more about the experience of menstruation. You will be given a booklet consisting of various background questions and four short questionnaires. It is important that you answer all questions as honestly and accurately as possible.

II. All information will be kept strictly confidential and will be anonymous. Your questionnaire will be identified only by a code number. DO NOT WRITE YOUR NAME anywhere on the questionnaire booklet.

III. If you would like a summary of the findings of this study, fill out your name and address on an envelope provided to you when you return your finished questionnaire. The summary will be mailed to you during the latter part of spring term. If you have any further questions or concerns, you can direct them to:

Lynn Wendyger
Department of Psychology
Snyder Hall
MSU

IV. If you want to participate in this study, read and sign the consent form that has been given to you. These forms are to be collected separate from the questionnaires. Fill in the consent form as follows:

Experimenter: Lynn Wendyger
Supervised by: Dr. Norman Abeles
Title of experiment: Physiological Factors in Women's Personality

V. Thank you for your participation!!!

APPENDIX C

BACKGROUND INFORMATION FORM

APPENDIX C

BACKGROUND INFORMATION

1. Age _____

2. Year in college _____

3. Major area of study _____

4. Ethnic background: (optional) Black Hispanic Oriental

   Anglo/Caucasian Other _____

5. Father's occupation: (Please be as specific as possible. If deceased or retired, please write his last occupation.)

6. Mother's occupation: (Please be as specific as possible. If deceased or retired, please write last occupation.)

7. How much education have your parents (or other adult guardians) completed:

	Mother	Father
Grade school.	_____	_____
Some high school.	_____	_____
High school graduate.	_____	_____
Training beyond high school . . .	_____	_____
Some college.	_____	_____
College graduate.	_____	_____
Post graduate work.	_____	_____

8. What is your family's religious affiliation?

   Catholic Jewish Protestant None

   Other (specify) _____

9. Marital status: Single Married Cohabiting

   Divorced Separated

10. Have you ever given birth to a child (children)?

    If "yes", how many children have you had? _____

11. Are you currently using, or have you ever used birth control pills? _____
(If "no", go on to question 12)

Are you now using birth control pills? _____

If you are no longer using the pill, how long has it been since you last used birth control pills? (years, months) _____

Give the approximate dates of usage of birth control pills: (year, month)

From _____ to _____

12. Are you currently using, or have you ever used an IUD (intrauterine contraceptive device)? _____
(If "no", go on to question 13)

Are you now using an IUD? _____

If you are no longer using an IUD, how long has it been since you last used an IUD? (years, months) _____

Give the approximate dates of your usage of an IUD: (year, month)

From _____ to _____

13. Have you ever had any medical advice or treatment for menstrual problems? _____
(If "no", go on to question 14)

If "yes", what kind of problem was it?

What kind of treatment or help did you receive?

When did you receive help? (approximate month, year)

What was the outcome?

14. Have you ever taken any medication for menstrual problems? _____

If "yes", what kind of medication? (Name if known)

What are the approximate dates of use?

Did you take any medication during your most recent menstrual cycle? _____

APPENDIX D

MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

APPENDIX D

Marlowe-Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Circle T (true) or F (false) for each item.

T F 1. Before voting I thoroughly investigate the qualifications of all the candidates.

T F 2. I never hesitate to go out of my way to help someone in trouble.

T F 3. It is sometimes hard for me to go on with my work if I am not encouraged.

T F 4. I have never intensely disliked anyone.

T F 5. On occasion I have had doubts about my ability to succeed in life.

T F 6. I sometimes feel resentful when I don't get my way.

T F 7. I am always careful about my manner of dress.

T F 8. My table manners at home are as good as when I eat out in a restaurant.

T F 9. If I could get into a movie without paying and be sure I was not seen I would probably do it.

T F 10. On a few occasions, I have given up doing something because I thought too little of my ability.

T F 11. I like to gossip at times.

T F 12. There have been times when I felt like rebelling against psople in authority even though I knew they were right.

T F 13. No matter who I'm talking to, I'm always a good listener.

T F 14. I can remember "playing sick" to get out of something.

T F 15. There have been occasions when I took advantage of someone.

T F 16. I'm always willing to admit it when I make a mistake.

T F 17. I always try to practice what I preach.

T F 18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

T F 19. I sometimes try to get even rather than forgive and forget.

T F 20. When I don't know something I don't mind at all admitting it.

T F 21. I am always courteous, even to people who are disagreeable.

T F 22. At times I have really insisted on having things my own way.

T F 23. There have been occasions when I felt like smashing things.

T F 24. I would never think of letting someone else be punished for my wrong-doings.

T F 25. I never resent being asked to return a favor.

T F 26. I have been irked when people expressed ideas very different from my own.

T F 27. I never make a long trip without checking the safety of my car.

T F 28. There have been times when I was quite jealous of the good fortune of others.

T F 29. I have almost never felt the urge to tell someone off.

T F 30. I am sometimes irritated by people who ask favors of me.

T F 31. I have never felt that I was punished without cause.

T F 32. I sometimes think when people have a misfortune they only got what they deserved.

T F 33. I have never deliberately said something that hurt someone's feelings.

APPENDIX E

BEM SEX ROLE INVENTORY

APPENDIX E

BEM SEX-ROLE INVENTORY

On the following page, you will be shown a large number of personality characteristics. We would like you to use those characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7, how true of you these various characteristics are. Please do not leave any characteristic unmarked.

Example: sly

Mark a 1 if it is NEVER OR ALMOST NEVER TRUE that you are sly.

Mark a 2 if it is USUALLY NOT TRUE that you are sly.

Mark a 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are sly.

Mark a 4 if it is OCCASIONALLY TRUE that you are sly.

Mark a 5 if it is OFTEN TRUE that you are sly.

Mark a 6 if it is USUALLY TRUE that you are sly.

Mark a 7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly," never or almost never true that you are "malicious," always or almost always true that you are "irresponsible," and often true that you are "carefree," then you would rate these characteristics as follows:

Sly	3
Malicious	1

Irresponsible	7
Carefree	5

1	2	3	4	5	6	7
NEVER OR ALMOST NEVER TRUE	USUALLY	SOMETIMES BUT INFREQUENTLY TRUE	OCCASIONALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE

Self reliant	
Yielding	
Helpful	
Defends own beliefs	
Cheerful	
Moody	
Independent	
Shy	
Conscientious	
Athletic	
Affectionate	
Theatrical	
Assertive	
Flatterable	
Happy	
Strong personality	
Loyal	
Unpredictable	
Forceful	
Feminine	

Reliable	
Analytical	
Sympathetic	
Jealous	
Has leadership abilities	
Sensitive to the needs of others	
Truthful	
Willing to take risks	
Understanding	
Secretive	
Makes decisions easily	
Compassionate	
Sincere	
Self-sufficient	
Eager to soothe hurt feelings	
Conceited	
Dominant	
Soft-spoken	
Likable	
Masculine	

Warm	
Solemn	
Willing to take a stand	
Tender	
Friendly	
Aggressive	
Gullible	
Inefficient	
Acts as a leader	
Childlike	
Adaptable	
Individualistic	
Does not use harsh language	
Unsystematic	
Competitive	
Loves children	
Tactful	
Ambitious	
Gentle	
Conventional	

APPENDIX F

MENSTRUAL ATTITUDE QUESTIONNAIRE

APPENDIX F

MENSTRUAL ATTITUDE QUESTIONNAIRE

Listed below are a number of statements concerning personal attitudes about menstruation. Read each item and indicate, on a scale from 1 to 7, whether you agree or disagree with the statement.

1 - Disagree strongly
2 - Disagree
3 - Somewhat disagree
4 - Neither agree nor disagree
5 - Somewhat agree
6 - Agree
7 - Agree strongly

____ 1. A woman's performance in sports is not affected negatively by menstruation.

____ 2. Menstruation is something I just have to put up with.

____ 3. Menstruation is a reoccurring affirmation of womanhood.

____ 4. Others should not be critical of a woman who is easily upset before or during her menstrual period.

____ 5. Women are more tired than usual when they are menstruating.

____ 6. I can tell my period is approaching because of breast tenderness, backache, cramps, or other physical signs.

____ 7. Cramps are bothersome only if one pays attention to them.

____ 8. I expect extra consideration from my friends when I am menstruating.

____ 9. In some ways I enjoy my menstrual periods.

____ 10. Menstruation allows women to be more aware of their bodies.

____ 11. I realize that I cannot expect as much of myself during menstruation compared to the rest of the month.

____ 12. I have learned to anticipate my menstrual period by the mood changes which precede it.

____ 13. A woman who attributes her irritability to her approaching menstrual period is neurotic.

____ 14. Menstruation can adversely affect my performance in sports.

1 - Disagree strongly
2 - Disagree
3 - Somewhat disagree
4 - Neither agree nor disagree
5 - Somewhat agree
6 - Agree
7 - Agree strongly

____ 15. Men have a real advantage in not having the monthly interruption of a menstrual period.

____ 16. Menstruation provides a way for me to keep in touch with my body.

____ 17. I feel as fit during menstruation as I do during any other time of the month.

____ 18. My own moods are not influenced in any major way by the phase of my menstrual cycle.

____ 19. I barely notice the minor physiological effects of my menstrual periods.

____ 20. I don't allow the fact that I'm menstruating to interfere with my usual activities.

____ 21. I hope it will be possible someday to get a menstrual period over within a few minutes.

____ 22. Menstruation is an obvious example of the rhythmicity which pervades all of life.

____ 23. Women who complain of menstrual distress are just using that as an excuse.

____ 24. Avoiding certain activities during menstruation is often very wise.

____ 25. I am more easily upset during my premenstrual or menstrual periods than at other times of the month.

____ 26. Premenstrual tension/irritability is all in a woman's head.

____ 27. I don't believe my menstrual period affects how well I do on intellectual tasks.

____ 28. The only thing menstruation is good for is to let me know I'm not pregnant.

____ 29. The recurrent monthly flow of menstruation is an external indication of a woman's general good health.

____ 30. I realize that I cannot expect as much of myself during menstruation compared to the rest of the month.

1 - Disagree strongly
2 - Disagree
3 - Somewhat disagree
4 - Neither agree nor disagree
5 - Somewhat agree
6 - Agree
7 - Agree strongly

____ 31. Most women show a weight gain just before or during menstruation.

____ 32. Most women make too much of the minor physiological effects of menstruation.

____ 33. Women just have to accept the fact that they may not perform as well when they are menstruating.

APPENDIX G

MENSTRUAL DISTRESS QUESTIONNAIRE

APPENDIX G

MENSTRUAL DISTRESS QUESTIONNAIRE

Write the approximate dates of your most recent menstrual period (flow) in the space marked "A" below. Then write the dates of the menstrual period which preceded the most recent one in the space marked "D".

from ____ to ____	other times during most recent cycle	week before most recent flow	most recent flow from ____ to ____
D	C	B	A

On the next pages is a list of symptoms which women sometimes experience. Please describe your experience of each of these symptoms during the three different time periods listed below:

Col. 1 during your most recent menstrual flow (the dates delineated by area A on the diagram above)

Col. 2 during the one week before your most recent menstrual flow (area B on the diagram)

Col. 3 during the remainder of your most recent menstrual cycle (area C)

For each answer choose the descriptive category listed which best describes your experience of that symptom during that time. Write the number of that description in the space provided. Even if none of the descriptions are exactly correct, choose the one that best describes your experience. Do not leave any blank spaces.

Descriptive Categories

1 - no experience of symptom
2 - barely noticeable
3 - present, mild
4 - present, moderate
5 - present, strong
6 - acute or partially disabling

EXAMPLE:	1. most recent flow (A)	2. week before (B)	3. remainder of cycle (C)
1. Symptom A	3	4	2
2. Symptom B	1	1	1

1 - no experience of symptom
2 - barely noticeable
3 - present, mild
4 - present, moderate
5 - present, strong
6 - acute or partially disabling

	1. most recent flow (A)	2. week before (B)	3. remainder of cycle (C)
1. Weight gain	_____	_____	_____
2. Insomnia.	_____	_____	_____
3. Crying.	_____	_____	_____
4. Lowered school or work performance	_____	_____	_____
5. Muscle stiffness.	_____	_____	_____
6. Forgetfulness	_____	_____	_____
7. Confusion	_____	_____	_____
8. Take naps or stay in bed. .	_____	_____	_____
9. Headache.	_____	_____	_____
10. Skin disorders.	_____	_____	_____
11. Loneliness.	_____	_____	_____
12. Feelings of suffocation . .	_____	_____	_____
13. Affectionate.	_____	_____	_____
14. Orderliness	_____	_____	_____
15. Stay home from work or school.	_____	_____	_____
16. Cramps (uterine or pelvic).	_____	_____	_____
17. Dizziness or faintness. . .	_____	_____	_____
18. Excitement.	_____	_____	_____
19. Chest pains	_____	_____	_____
20. Avoid social activities . .	_____	_____	_____
21. Anxiety	_____	_____	_____

1 - no experience of symptom
2 - barely noticeable
3 - present, mild
4 - present, moderate
5 - present, strong
6 - acute or partially disabling

		1. most recent flow (A)	2. week before (B)	3. remainder of cycle (C)
22.	Backache	_____	_____	_____
23.	Cold sweats.	_____	_____	_____
24.	Lowered judgment	_____	_____	_____
25.	Fatigue	_____	_____	_____
26.	Nausea or vomiting	_____	_____	_____
27.	Restlessness	_____	_____	_____
28.	Hot flashes.	_____	_____	_____
29.	Difficulty in concentration	_____	_____	_____
30.	Painful or tender breasts. .	_____	_____	_____
31.	Feelings of well-being . . .	_____	_____	_____
32.	Buzzing or ringing in ears .	_____	_____	_____
33.	Distractable	_____	_____	_____
34.	Swelling (e.g., abdomen, breasts, ankles)	_____	_____	_____
35.	Accidents (e.g., cut finger, break dish).	_____	_____	_____
36.	Irritability	_____	_____	_____
37.	General aches and pains. . .	_____	_____	_____
38.	Mood swings.	_____	_____	_____
39.	Heart pounding	_____	_____	_____
40.	Depression (feeling sad or blue).	_____	_____	_____
41.	Decreased efficiency	_____	_____	_____

1 - no experience of symptom
2 - barely noticeable
3 - present, mild
4 - present, moderate
5 - present, strong
6 - acute or partially disabling

	1. most recent flow (A)	2. week before (B)	3. remainder of cycle (C)
42. Lowered motor coordination .	_____	_____	_____
43. Numbness or tingling in hands or feet.	_____	_____	_____
44. Change in eating habits. . .	_____	_____	_____
45. Tension.	_____	_____	_____
46. Blind spots or fuzzy vision.	_____	_____	_____
47. Bursts of energy or activity	_____	_____	_____

In what ways, if any, was your most recent menstrual cycle unusual?