Chapter – V

Discussion

Sex Difference in Personality Traits of Sportsmen

Effects of sex and group behavior on personality of athlete have been revealed in a number of studies (e.g. Peterson et al. 1967; Rushall, 1967; Meredith and Harris, 1969; Foster, 1972). Rushall (1967) while comparing personality characteristics of male swimmers with female swimmers found that females were socially bold, noisy and unrestrained in their behavior, whereas males appeared to be self-centered and individualistic. It was also found that novice female swimmers were, in general, more introverted than control group of female athletes, not primarily engaged in swimming (Meredith and Harris, 1969). Rushall (1970) concluded that personality is not related with success in swimming.

Considerable data have been presented regarding personality traits of female athletes. The personality structure of women athletes has been studied in the various sports such as fencing (Williams et al., 1970), basketball and golf (Johnson, 1972), lacrosse (Mushier, 1970), swimming (Ibrahim, 1967; Kane; 1966; Ogilvie, 1968), track and field (Kane, 1968) and field hockey (Acampore, 1971; Johnson, 1972). These researches compared personality traits across sports groups as well as compared team with individual sport participants (Hein, 1954; Niblock, 1960; Malumphy, 1968), studied outstanding athletes (Neal, 1963) and compared the women athletes with non-athletes (Foster, 1969; Kane, 1966). The results of these studies have generally shown that a few similar traits are being projected by women athletes in various sports. Women in athletic competitions appear to be more

Niblock (1960) found that female athletes to be more energetic, enthusiastic, efficient, as possessing more leadership potential, and were optimistic and more extroverted. Chadwick (1972) found that female athletes were significantly more tough-minded, practical, group dependent, subdued and less intelligent than non-athletic females. On the other hand, Ogilvie (1971) found male competitors to be basically emotionally healthy persons who tend towards extroversion. They were tough-minded, self-assertive and self-confident with a high capacity to endure the stress involved in high level competition.

William and her associates (1970) found that the male and female competitive race car drivers tended to be reserved, self-sufficient, autonomous, assertive and aggressive, and they scored below average on affiliation and nurturance. Mushier (1972) found college lacrosse players to be significantly more reserve, intelligent, assertive, and happy go-lucky and tough-minded than non-female athletes.

Gruber and Perkins (1978) found women who competed in inter-collegiate competition to be significantly higher on the factors F (sober) and I (tough-minded) when compared to the non-participant group. Williams (1978) reported that selected personality traits are frequently associated with the elite female athletes, and, specifically, that the successful female competitor generally tends to be more
assertive, dominant, self-sufficient, independent, aggressive, reserved achievement-oriented and have average to low emotionality than the unsuccessfully female competitors. Evans and Quarterman (1983) found that the female basketball players (successful and unsuccessful) scored significantly lower on factor I than the non-athletic female group towards the tough-minded side of the scale. On factor L, the unsuccessful basketball players scored significantly lower than the successful players, indicating that unsuccessful players are more trusting group.

By considering team sports separately by categorizing athletes into one of three classes i.e. offensive, centre and defensive players, Kirkcaldy (1982) found that males in attacking position (offensive players) were substantially higher in psychoticism (tough-minded, dominant, aggressive), and extraversion as compared to mid-field (centre), players, there being no difference between offensive and defensive participants. The attacking player was significantly more neurotic (emotionally unstable) than either centre or defensive player. The forward, offensive players were less easily differentiated from defensive players, the latter group exhibiting a more emotionally stable pattern than the offensive athlete. In females, the trend was somewhat reversed i.e. attacking players were less extraverted and more neurotic than players from other positions. No significant differences were found to exist in the personality profiles of female athletes between different positions. The investigator (1986) also found no sex difference in extraversion and neuroticism traits of personality in the athletic as well as hockey group.

Uppal and Gill (1986) found that highly skilled male badminton players were more suspicious, either less intelligent or more intelligent and neither tough-minded nor tender-minded as compared to poorly skilled male badminton players who were less intelligent, tough-minded and neither trusting nor suspicious. On the other hand,
highly skilled female badminton players were tough-minded, suspicious and hard to fool as compared with poorly skilled female badminton players were tough-minded nor tender-minded and neither trusting nor suspicious.

**Personality and Sports Performance**

Several investigators have directed their attention towards an understanding of the relationship between personality and level of performance e.g. Johnson, Hutton and Johnson (1954) found that the outstanding athletes were found to possess several distinguishing characteristics like “extreme aggressiveness, a freedom from great emotional inhibition, high and generalized anxiety, high level of intellectual aspiration and feeling of exceptional self-assurance”. LaPlace (1954) also investigated that the outstanding athletes were better adjusted than the “unsuccessful group”. Singer (1969) compared the basketball players and tennis players on EPPS norms and also the highest and lowest ranked athletes in both sports. The basketball team scored significantly higher that the other two groups on the abasement factor, significantly lower than the other two groups, on the interception variable, lower than the tennis group on the achievement variable, lower than the norm group on autonomy and lower than the tennis group on dominance. Both the baseball and tennis groups scored significantly higher than the norm group on the aggression factor. No differences were noted between high and low rated baseball players.

Persons (1964) administered the 16 PF to champion swimmers and found that they differed from the population on 15 of the 16 factors. However, those swimmers in the champion group who were selected to participate on 1962 Canadian team did not differ from those swimmers who were not selected.

Kane (1964) who reviewed the literature pertaining to personality and physical ability came to the conclusion that a positive relationship exists between “athletic
ability and stability as opposed to anxiety, athletic ability and extraversion as opposed to introversion”. The results of the investigations conducted since Kane’s (1964) review have been equivocal as provide by considerable evidence showing that success in sports is dependent upon certain physical capacities. Kane (1964) also examined the relationships between various physical abilities, personality factors, physique, and sociometric status. He found, (i) that a high level of physical ability favors extravert development, (ii) that among those of high physical ability, only those achieve high standards in competitive conditions who rate highly in extravert, and (iii) that size supports stability.

In a study conducted by Acampora (1971), on women field hockey players at the high school, college and club level, it was found that the higher the level of competition, the more favorable the score on traits such as self-confidence, determination, emotional control, conscientiousness, trust and leadership.

The findings of Singh (1979) supported that high skilled players, irrespective of the game they played were more extrovert and less neurotic than the low skilled players. His results further confirmed the findings of some previous investigations conducted by Sperling (1942), Johnson, Hutton and Johnson (1954), Yanada and Hirata (1970), Foster (1972), Sandhu (1976), Shokeen (1977), Gruber and Parkins (1978).

Recently, interest in the relationship between “sports and personality” has once more received a boost (Kirkcaldy et al. 1983; Bachleitner, 1984), while there are some researchers who have established an obvious relationship between athletic performance and personality traits (Eysenck, 1982; Kirkcaldy, 1982), there are other who deny such a correlation mainly because the results provide contradictory findings (Sack, 1982; Mummendry, 1983).
A number of studies on personality and sports have shown significant sex differences in the personality characteristics of athletes. Similarly, significant differences have been found between athletes and non-athletes on the various personality traits. But the findings regarding differences in the personality traits of players of individual and team games are unequivocal. However, many researchers have found personality differences among sportsmen belonging to different games. Several investigators have tried to understand the relationship between personality traits of athletes and their level of performance. They have identified many traits which can be related with the successful participation in sports.

Summary of two way ANOVs dimension on openness factor of A (Kho-Kho game Level) A1 National kho-kho players and A2 State level kho-kho players. B (Gender) B1 male kho-kho players and B2 female level kho-kho players. Factor A F value is 242.22 and factor B f value is 25.03 and Interaction between AxB is 88.51. Main effect of A, factor of openness, A1 National level kho-kho players mean is 41.28 And A2 state level kho-kho players mean is 39.58 F value (1,396) of kho-kho players is 242.22 And two mean is highly significant at both levels. Means national level kho-kho players had significantly high openness than the state level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected. Main effect of B, factor of openness, B1 male kho-kho players mean is 43.09 And B2 female kho-kho players mean is 37.75 F value of kho-kho players is 25.03 And two mean is highly significant at both levels. Means male level kho-kho players had significantly high openness than the female level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.
Interaction between A x B (type of game players x Gender) is $F(1,396) = 88.51, p < .01$. Type of game players and gender are interdependent on each other.

Summary of two way ANOVs dimension on Conscientiousness factor of A (Kho-Kho game Level) A1 National kho-kho players and A2 State level kho-kho players. B (Gender) B1 male kho-kho players and B2 female level kho-kho players. Factor A F value is 74.52 and factor B f value is 0.89 and Interaction between AxB is 7.46.

Main effect of A, factor of Conscientiousness, A1 National level kho-kho players mean is 44.5 And A2 state level kho-kho players mean is 40.15 F value (1,396) of kho-kho players is 74.52 And two mean is highly significant at both levels. Means national level kho-kho players had significantly high Conscientiousness than the state level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Main effect of B, factor of Conscientiousness, B1 male kho-kho players mean is 42.09 And B2 female kho-kho players mean is 42.56 F value of kho-kho players is 0.89 And two mean is not significant at both levels. Research hypothesis has been rejected and null hypothesis was accepted means there was no difference between national level kho-kho players and state level kho-kho players on dimension Conscientiousness.

Interaction between A x B (type of game players x Gender) is $F(1,396) = 7.46, p < .01$. Type of game players and gender are interdependent on each other.

Summary of two way ANOVs dimension on Extraversion factor of A (Kho-Kho game Level) A1 National kho-kho players and A2 State level kho-kho players. B (Gender) A1 male kho-kho players and B2 female level kho-kho players. Factor A F value is 60.13 and factor B f value is 152.99 and Interaction between AxB is 60.13.

Main effect of A, factor of Extraversion, A1 National level kho-kho players mean is 42.28 And A2 National level kho-kho players mean is 39.01 F value (1,396) of kho-
kho players is 60.13 And two mean is highly significant at both levels. Means national level kho-kho players had significantly high Extraversion than the state level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Main effect of B, factor of Extraversion, B1 male kho-kho players mean is 41.67 And B2 female kho-kho players mean is 39.62 F value of national level kho-kho players is 152.99 And two mean is highly significant at both levels. Means male level kho-kho players had significantly high Extraversion than the female level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Interaction between A x B (type of game players x Gender) is F (1,396) = 60.13, p < .01. Type of game players and gender are interdependent on each other.

Summary of two way ANOVs dimension on Agreeableness factor of A (Kho-Kho game Level) A1 National kho-kho players and A2 State level kho-kho players. B (Gender) A1 male kho-kho players and B2 female level kho-kho players. Factor A F value is 44.8. and factor B f value is 11.33 and Interaction between AxB is 0.38.

Main effect of A, factor of Agreeableness, A1 National level kho-kho players mean is 42.39 And A2 National level kho-kho players mean is 44.65 F value (1,396) of national level kho-kho players is 44.8 And two mean is highly significant at both levels. Means State level kho-kho players had significantly high Agreeableness than the national level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Main effect of B, factor of Agreeableness, B1 male kho-kho players mean is 47.25 And B2 female kho-kho players mean is 43.79 F value of kho-kho players is 11.33 And two mean is highly significant at both levels. Means male level kho-kho players had significantly high Agreeableness than the female level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.
Interaction between A x B (type of game players x Gender) is $F(1,396) = 0.38$, $p < .01$. Type of game players and gender are not interdependent on each other.

Summary of two way ANOVs dimension on Neuroticism factor of A (Kho-Kho game Level) A1 National kho-kho players and A2 State level kho-kho players. B (Gender) A1 male kho-kho players and B2 female level kho-kho players. Factor A F value is 156.1 and factor B f value is 172.2 and Interaction between AxB is 35.65.

Main effect of A, factor of Neuroticism, A1 National level kho-kho players mean is 37.67 And A2 state level kho-kho players mean is 42.61 F value (1,396) of kho-kho players is 1576.1 And two mean is highly significant at both levels. Means State level kho-kho players had significantly high Neuroticism than the national level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Main effect of B, factor of Neuroticism, B1 male kho-kho players mean is 33.67 And B2 female kho-kho players mean is 45.61 F value of national level kho-kho players is 172.2 And two mean is highly significant at both levels. Means female level kho-kho players had significantly high Neuroticism than the male level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Interaction between A x B (type of game players x Gender) is $F(1,396) = 35.65$, $p < .01$. Type of game players and gender are interdependent on each other.

Summary of two way ANOVs dimension on Endurance factor of A (Kho-Kho game Level) A1 National kho-kho players and A2 State level kho-kho players. B (Gender) A1 male kho-kho players and B2 female level kho-kho players. Factor A F value is 461.42 and factor B f value is 85.53 and Interaction between AxB is 1.31.

Main effect of A, factor of Endurance, A1 National level kho-kho players mean is 11.47 And A2 state level kho-kho players mean is 8.56 F value (1,396) of kho-kho players is 461.42 And two mean is highly significant at both levels. Means national
level kho-kho players had significantly high endurance than the national level kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected. Main effect of B, factor of Endurance, B1 male kho-kho players mean is 10.64 And B2 female kho-kho players mean is 9.39 F value of kho-kho players is 85.53 And two mean is highly significant at both levels. Means male kho-kho players had significantly high endurance than the female kho-kho players. Research hypothesis has been accepted and null hypothesis was rejected.

Interaction between A x B (type of game players x Gender) is F (1,396) = 1.31, p < .01. Type of game players and gender are not interdependent on each other.

**Big Five Personality**

Personality has been an important topic to the study of psychology since its earliest beginnings. The conceptualization of personality has shifted and expanded over the many years it’s been studied. Cattell, an early personality researcher, found 4,500 words in the English language encompassing personality (John, Nauman, & Soto, 2008). In the late 1940s and early 1950s, personality researchers found, through factor analysis, five overall factors within these personality terms identified by Cattell. These five factors were very similar to those used to this day. The five factors currently consist of: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Neuroticism is the aspect of personality that encompasses the degree of emotional instability versus stability (Costa & McCrae, 1992). An individual scoring high on neuroticism experiences a particular proneness to negative affect, while individuals scoring low on neuroticism tend to be more mellow and calm in nature. Neurotic individuals tend to experience feelings such as: “fear, sadness, embarrassment, anger, guilt, and disgust” (pp. 14). This group of individuals also
tends to lack the ability to cope with these emotions. This factor is found to be most related to the presence of psychopathology (Costa & McCrae, 1992; Kotov, Gamez, Schmidt, & Watson, 2010).

Extraversion is the factor that encompasses more of the social aspects of personality, measuring the range between being extremely sociable to a more reserved sociability (Costa & McCrae, 1992). Individuals scoring high on the measure of extraversion tend to be more talkative and cheerful in disposition. Individuals scoring low, often referred to as introverts, do not embody the opposite of extraversion; they simply lack it. These individuals tend to prefer their alone time and do not get as much charge from social interactions (Costa & McCrae, 1992).

Openness to experience refers to the degree to which an individual is welcoming to a new experience or way of thinking (Costa & McCrae, 1992). An individual scoring low on openness to experience tends to be more comforted by familiar and habitual stimuli. Though inherently openness to experience may appear to be healthier, both ends of the spectrum provide for beneficial ways of viewing and experiencing the world. Those scoring high on openness to experience tend to be more creative, having a more expansive imagination and appreciation for aesthetics. Those scoring low on openness to experience have a tendency to be more traditional, which can serve as an advantage to the individual in that they are more versed in a traditional way of life, which may provide them with some comfort and stability. The action of seeking out and understanding novelty is a behavior that is related to being more open (Costa & McCrae, 1992).

Agreeableness is an interpersonal factor of personality (much like extraversion) but with more of an emphasis on altruistic behavior (Costa & McCrae, 1992). Agreeableness is the aspect of personality that measures an individual’s
tendency to sympathize and tend to have a desire to be helpful to others, involving compliance and cooperation with others. Individuals scoring low on agreeableness tend to be more self-centered and cynical with regard to others. Although being more agreeable appears to be the healthier end of the spectrum, all levels can offer benefits to the individual, as it is adaptive to be able to think of one’s self and of others in order function within the world (Costa & McCrae, 1992).

The fifth and final domain is conscientiousness, which is the personality domain that involves planning and organization (Costa & McCrae, 1992). An individual scoring high on conscientiousness is often described as having a lot of willpower and being someone that completes tasks. These individuals are often achievement-oriented, while those low in conscientiousness may pay little mind to the active process of planning and finishing the tasks they begin. An individual scoring low on conscientiousness may approach the world in a more free-flowing sort of way in which goals may be less clear and therefore more difficult to attain (Costa & McCrae, 1992).

Kotov et al. (2010) studied the relationship between personality and psychopathology (substance use disorder, anxiety, and depression) finding that personality is highly connected to psychopathology. The profile of an individual experiencing psychopathology is someone scoring high on neuroticism and low on conscientiousness, agreeableness, and extraversion. Though there are differences across disorders, there is often no correlation between psychopathology and the domain of openness to experience. More specifically, depressive and anxiety disorders are strongly related to neuroticism. Depression is also negatively correlated with extraversion. Substance use disorder is often characterized as an individual that scores high on openness to experience and low on conscientiousness (Ozer & Benet-
Martinez, 2006). If we look at the directionality of the connection between personality and depression, we see it fall two ways: those with neuroticism are more likely to have depression, but also an individual is likely to score higher on neuroticism when experiencing depression (Klein, Kotov, & Bufferd, 2012). Often times the personality profile associated with personality disorders is simply an extreme version of certain personality domains. Widiger, Livesley, and Clark (2009) suggest that any extreme score (low and high) on a particular facet or domain of personality may be indicative of a maladaptive personality trait and could represent a possible disordered personality.

Kotov et al. (2010) found that particular pathologies are associated with distinct sets of personality traits. Along with these many personality influenced pathologies, also many general life outcome constructs tend to be predicted by the five-factor model, including those many factors reported by Ozer and Benet-Martinez (2006). These associations found within the research illuminate the usefulness of personality profiling and its applicability within research and clinical settings.

**Gender differences in big five personality traits**

The investigation of personality differences is important to our understanding of general human variation, though it is not without controversy. Research on individual differences in intelligence, for example, has sparked years of scientifically and emotionally motivated debate (Neisser et al., 1996). Gender differences research has also proven to be controversial, with much of the debate concerning the causes and precursors of differences. Biological and evolutionary approaches posit that gender differences are due to men and women's dimorphically evolved concerns with respect to reproductive issues, parental investment in offspring (Trivers, 1972; Buss, 2008). According to these theories, women should be more concerned with
successfully raising children and should therefore be more cautious, agreeable, nurturing, and emotionally involved. Men, on the other hand, should be more concerned with obtaining viable mating opportunities and should therefore exhibit more Assertiveness, risk-taking, and aggression. Other theories suggest that gender norms are shaped by socio-cultural influences, such that women and men are expected to serve different roles in society and are therefore socialized to behave differently from one another (Wood and Eagly, 2002; Eagly and Wood, 2005). Of course, it may well be that both evolutionary and social forces have contributed to gender differences. Interestingly, recent studies have shown that gender differences in personality tend to be larger in more developed, Western cultures with less traditional sex roles (Costa et al., 2001; Schmitt et al., 2008). In our review, we focus on the patterns that have been found most consistently across cultures. The overall pattern for gender differences in personality measured by the Big Five is that existing differences are small to medium in size. For some domains, the gender differences are in the same direction across all measured facets; for others, however, the patterns are more divergent.

**Neuroticism**

Neuroticism describes the tendency to experience negative emotion and related processes in response to perceived threat and punishment; these include anxiety, depression, anger, self-consciousness, and emotional lability. Women have been found to score higher than men on Neuroticism as measured at the Big Five trait level, as well as on most facets of Neuroticism included in a common measure of the Big Five, the NEO-PI-R (Costa et al., 2001). Additionally, women also score higher than men on related measures not designed specifically to measure the Big Five, such as indices of anxiety (Feingold, 1994) and low self-esteem (Kling et al., 1999). The
one facet of Neuroticism in which women do not always exhibit higher scores than men is Anger, or Angry Hostility (Costa et al., 2001).

**Agreeableness**

Agreeableness comprises traits relating to altruism, such as empathy and kindness. Agreeableness involves the tendency toward cooperation, maintenance of social harmony, and consideration of the concerns of others (as opposed to exploitation or victimization of others). Women consistently score higher than men on Agreeableness and related measures, such as tender-mindedness (Feingold, 1994; Costa et al., 2001).

**Conscientiousness**

Conscientiousness describes traits related to self-discipline, organization, and the control of impulses, and appears to reflect the ability to exert self-control in order to follow rules or maintain goal pursuit. Women score somewhat higher than men on some facets of Conscientiousness, such as order, dutifulness, and self-discipline (Feingold, 1994; Costa et al., 2001). These differences, however, are not consistent across cultures, and no significant gender difference has typically been found in Conscientiousness at the Big Five trait level (Costa et al., 2001).

**Extraversion**

Extraversion reflects sociability, Assertiveness, and positive emotionality, all of which have been linked to sensitivity to rewards (Depue and Collins, 1999; DeYoung and Gray, 2009). Whereas gender differences are small on the overall domain level of Extraversion (with women typically scoring higher), the small effect size could be due to the existence of gender differences in different directions at the facet level. Women tend to score higher than men on Warmth, Gregariousness, and
Positive Emotions, whereas men score higher than women on Assertiveness and Excitement Seeking (Feingold, 1994; Costa et al., 2001).

Extraversion, together with Agreeableness, can be used to describe the two dimensions of the interpersonal circumplex (IPC; Wiggins, 1979), which contains descriptions of traits relevant to interpersonal interaction. Though originally posited to describe interpersonal traits using axes of Love and Status/Dominance, the IPC can also be conceptualized as a rotation of Big Five Extraversion and Agreeableness (McCrae and Costa, 1989). Given the importance of Extraversion to the interpersonal domain, it may be expected that women would consistently score higher than men. However, the pole of the IPC often called Dominance contains traits such as bossy, domineering, and assertive. Men tend to be more dominant and agentic than women, and exhibit higher levels of these traits (Helgeson and Fritz, 1999). Gender differences in Extraversion may therefore switch directions depending on whether the specific traits measured fall closer or further from the dominance pole.

**Openness/Intellect**

Openness/Intellect reflects imagination, creativity, intellectual curiosity, and appreciation of esthetic experiences. Broadly, Openness/Intellect relates to the ability and interest in attending to and processing complex stimuli. No significant gender differences are typically found on Openness/Intellect at the domain level, likely due to the divergent content of the trait. For example, women have been found to score higher than men on the facets of Esthetics and Feelings (Costa et al., 2001), whereas men tend to score higher on the Ideas facet (Feingold, 1994; Costa et al., 2001).

**Gender differences**

Cross-cultural research has shown some patterns of gender differences on responses to the NEO-PI-R and the Big Five Inventory. For example, women
consistently report higher Neuroticism, Agreeableness, warmth (an extraversion facet) and openness to feelings, and men often report higher assertiveness (a facet of extraversion) and openness to ideas as assessed by the NEO-PI-R.

A study of gender differences in 55 nations using the Big Five Inventory found that women tended to be somewhat higher than men in neuroticism, extraversion, agreeableness, and conscientiousness. The difference in neuroticism was the most prominent and consistent, with significant differences found in 49 of the 55 nations surveyed. Gender differences in personality traits are largest in prosperous, healthy, and more gender-egalitarian cultures. A plausible explanation for this is that acts by women in individualistic, egalitarian countries are more likely to be attributed to their personality, rather than being attributed to ascribed gender roles within collectivist, traditional countries. Differences in the magnitude of sex differences between more or less developed world regions were due to differences between men, not women, in these respective regions. That is, men in highly developed world regions were less neurotic, extraverted, conscientious and agreeable compared to men in less developed world regions. Women, on the other hand tended not to differ in personality traits across regions. The authors of this study speculated that resource-poor environments (that is, countries with low levels of development) may inhibit the development of gender differences, whereas resource-rich environments facilitate them. This may be because males require more resources than females in order to reach their full developmental potential. The authors also argued that due to different evolutionary pressures, men may have evolved to be more risk taking and socially dominant, whereas women evolved to be more cautious and nurturing. Ancient hunter-gatherer societies may have been more egalitarian than later agriculturally oriented societies. Hence, the development of gender inequalities may have acted to constrain the
development of gender differences in personality that originally evolved in hunter-gatherer societies. As modern societies have become more egalitarian, again, it may be that innate sex differences are no longer constrained and hence manifest more fully than in less-developed cultures. Currently, this hypothesis remains untested, as gender differences in modern societies have not been compared with those in hunter-gatherer societies.