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SEXUAL BEHAVIOR AND SEX ROLES IN UNIVERSITY STUDENTS

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DISSERTATION APPROVAL

This dissertation submitted by Michael DeMarco has been read and approved by three faculty members of the American Academy of Clinical Sexologists at Maimonides University.

The final copies have been examined by the Dissertation Committee and the signatures which appear here verify the fact that any necessary changes have been incorporated and that the dissertation is now given the final approval with reference to content, form and mechanical accuracy.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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To my friends, family and especially my partner, Greg.

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ABSTRACT

The matter of sexual compulsivity / sex addiction is controversial among sexologists. However, sexually driven behavior varies among individuals as assessed by validated instruments like the Sexual Compulsivity Scale (SCS). The purpose of this research study was to investigate the relation between sexual compulsive behavior and gender role traits (masculinity/femininity) using the SCS and the Bem Sex Role Inventory (BSRI) in a non-clinical setting with healthy university students. The working hypothesis was that individuals who score highly on the SCS will also score highly in the masculine areas of the BSRI. The study comprised of 116 students (54 male, 62 female). Men scored significantly higher than women in the SCS, and differed with respect to key questions predicting their individual SCS score. While the SCS was not associated with ethnicity, religion, relationship status or sexual orientation, students with addictive tendencies (tobacco, alcohol or drug abuse) scored significantly higher on this instrument. In the BSRI, female students showed significantly higher “femininity” than male, but no difference in the “masculinity”. The gender role traits were not clearly associated with other demographic characteristics. A direct correlation between sexual compulsivity and gender role traits could only be identified in males: The SCS and masculinity score from BSRI were positively correlated in male participants, and sex-typed “masculine males” scored significantly higher on the SCS. No such association was found with femininity / feminine personality in males or for female students at all. Patients from a sexologist’s office served as a positive control group with significantly higher SCS scores. In conclusion, men show generally increased sexual compulsivity than women, and this phenomenon is directly linked to masculine gender role traits. However, sexually driven behavior in women is more complex and cannot be associated with classical gender role traits.

INTRODUCTION

Sexual compulsion, also called sexual addiction, by some, has been a controversial topic for more than twenty years in the field of mental health. Sexual scientists have used various terms to describe this phenomenon: hypersexuality, erotomania, nymphomania, satyriasis, and most recently sexual addiction and compulsive sexual behavior. The terminology has often implied different values, attitudes, and theoretical orientations (Coleman, 1996). Researchers and clinicians may disagree about what to call it, but most would agree that certain individuals have more of a sexually driven nature than others, and, at times, this sexually driven behavior can be insistent, repetitive and intrusive (Kalichman & Rompa, 1995).

Research generally shows that men are more oriented towards sexual acts and women are more oriented towards romance or the emotional aspects of sex (Missildine, Feldstein, Punzalau, and Parsons, 2005; Oliver & Hyde, 1993), which would tend to support common social and cultural assumptions in the western world today. Also, various studies attribute a tendency towards sexually driven behavior to men compared with women (Baumeister, Catanese, and Vohs, 2001; Dodge, Reece, Cole, and Sandfort, 2004). However, it is as yet unclear if this tendency towards sexual compulsivity is a general feature distinguishing men and women or if it is closely related to behavioral or personality types within the gender as well. In other words, what characteristics do people who show signs of sexual compulsion have in common?

While masculinity and femininity have long been conceptualized as somewhat opposite ends of a spectrum, more recent models attempt to integrate femininity and

masculinity within a single individual (Oswald, 2004). In fact, so called feminine and masculine personality traits are generally found to different extents within the same individual. In this study, validated measures will be applied assessing masculinity and femininity as separate dimensions rather than as opposite ends of a continuum (Bem, 1974; Choi & Fuqua, 2003). Therefore, an individual may score highly in both masculine and feminine areas of the scale, denoting *psychological androgyny* (Bem, 1974). If men, as assumptions and research imply, tend to be more sexual by nature, then it would follow that men who tend to show sexually compulsive behavior would show some heightened sense of masculinity. It would also follow that women who show signs of sexually compulsive behavior may have more masculine traits.

Conceptualizing sexually driven behavior

Pathological

Much of the recent literature has given us two main terms to conceptualize sexually driven behavior: *compulsive sexual behavior* and *sexual addiction*. Bancroft and Vukandovic argue that at this time, both concepts are of uncertain value (2004). In the past, other labels such as *nymphomania*, *satyriasis*, *sexual sensation seeking* and *hypersexuality* have been used (Rinehart & McCabe, 1997; Kalichman & Rompa, 2001). What has received little attention is whether sexually driven behavior is best understood at the extreme of the normal range, or rather a behavioral pattern that is measurably different from the norm in ways that are problematic (Bancroft & Vukadinovic, 2004). Substantial debate and scepticism surround the nature and existence of sexual compulsivity as a “pathological condition” (Levine & Troiden, 1988).

Sexual compulsivity was first described in literature by a sex therapist, Michael Quadland (1985) who found that gay men referred to themselves as “sexually compulsive”. Quadland defined sexual compulsivity as an inability to control sexual behavior. It is characterized by a persistent, habitual, unwanted desire to perform specific sexual acts in a meticulous or precise manner. Sexual compulsivity is not impulsive or pleasure-directed, but has been found to be associated with lower levels of self-esteem and refusal to utilize strategies that reduce sexual risk-taking (Kalichman & Rompa, 1995; McCoul & Haslam, 2001; Quadland & Shattles, 1987). Sexual compulsivity was further defined by researchers as “an insistent, repetitive, intrusive and unwanted urge to perform specific acts often in ritualized or routinized fashions” (Kalichman & Rompa, 1995, p 587). Sex addiction is often seen as sexual activity that often falls into one of three categories: Shameful, Secretive or Abusive (Carnes, 1978).

The few data-based studies to date have focused on potentially relevant comorbidity of anxiety, depression, obsessive-compulsiveness, interpersonal sensitivity, substance use disorders, and mood disorders (Raviv, 1993; Black et al 1997). Treatment methods follow the conceptualizations from mood elevating drugs such as SSRIs (Fedoroff, 1993; Kafka & Hennen, 2000; Stein et al, 1992) to 12 step programs such as Sex Addicts Anonymous, Sexaholics Anonymous, Sexual Compulsives Anonymous, and Sex and Love Addicts Anonymous (Carnes, 1991). {For this dissertation, the author has chosen to use the wording sexually compulsive behavior only for the sake of clarity considering the instrument used in this study is the Sexual Compulsivity Scale. Please see Appendix 4.}

Non-pathological

Research supports the conclusion that across varying sexual orientations, men tend to emphasize short-term, sexually based relationships (Peplau, 2003). Research shows that men are more sexually motivated, having more frequent and more intense sexual desires than women (Baumeister, et al, 2001). Baumeister goes on to say that there is some concern when relying on norms for self-understanding and self-evaluation, especially if the outcome is a self-critical view based on a false understanding of what the actual norms and typical patterns are such that one thinks something is wrong. Buss and Schmitt (1993) proposed in their sexual strategies theory (SST) that men are evolutionarily wired to desire more sex partners than women (n=148). In Miller and Fishkin's 1997 study, a sample of college students was asked how many sex partners they would like to have over the entire rest of their lives if they were not constrained by any factors such as disease or laws. The mean response from women was that they would ideally like to have 2.7 sex partners, whereas men's men response was 64. Furthermore, Herold and Mewhinney's 1993 found that 25% of men in their sample always enjoyed casual sex (compared to just 2% of women) and were more likely to have sex with someone the same day as the study (72% of men compared to 49% of women). Levine and Troiden (1988) concluded that sexual addiction and sexual compulsivity were value laden, stigmatizing terms, driven by societal norms and Hyde & DeLamater (2000) concluded that pathological compulsive sexual behavior to researchers and health professionals may actually be experienced as normal sexual exploration by college students. It is important to keep in mind that 'college students' frequently serve as the

control population of ‘healthy volunteers’ to validate psychological instruments (as used in this thesis) – but that ‘college students’ may very well not be representative of the overall population, especially with respect to sexual behavior.

Conceptualizing Gender Roles/Sex Roles

It is important to note that while sex and gender are defined differently, the terms “sex role” and “gender role” are often used interchangeably. In this study, the concept is defined as an individual’s masculine or feminine behavior in society’s male and female sex dichotomy. {Note- For the purpose of this study, the author tends to use the term sex role in keeping with the title of the psychometric instrument used in the study.}

Sandra Bem (1974) developed an instrument that treats masculinity and femininity as two independent dimensions making it possible to characterize a person as masculine, feminine or androgynous (Please see Appendix 5). Historically, individuals were seen as either masculine or feminine- opposite ends of a continuum. However, Bem hypothesized that an individual may have aspects of both the masculine and the feminine, calling this psychological androgyny. The scale she later developed measures internalized norms from society regarding what characteristics a male or female should possess and how each should behave. Psychologically androgynous individuals, however, are more liable to feel comfortable behaving in ways associated with both sexes, possibly demonstrating greater adaptability than their sex-typed counterparts (Bem & Lenney, 1976). Likewise, it has been shown that rigid commitment to masculine schemata for coping with life’s problems may result in dysfunctional coping patterns in

men (Arrindell et al 2003). Eisler and Blalock (1991) hypothesized that excessive reliance on culturally approved masculine roles may predispose men to behavior patterns that are unhealthy or dysfunctional.

REVIEW OF THE LITERATURE

No examination of how or whether gender roles and identity affect behaviour can be complete without recognizing that children are programmed from their earliest years into developing their own sense of femaleness and maleness (Feldman, 2006). Nursery school boys are encouraged to engage in rough and tumble, free-play games, while nursery-school girls are directed into organized games and role-playing. By the time children are old enough to be aware of their physiological differences, they also correlate those differences with the roles they have learned (Feldman, 2006).

Freud hypothesized that boys and girls experience at about age five the Oedipal conflict during which they become aware of their physiological differences and learn to identify with the same-sex parent as a resolution to conflicting feelings over the opposite-sex parent. As Feldman (2006) pointed out, despite some discounting of Freud's Oedipal theory, identification with the same-sex parent occurs even in single-parent families. When the all-pervasive influence of the media is added to the inevitable role modelling provided by parents and other adults in children's lives, gender identity almost always trumps any attempt to orient children towards an androgynous view of themselves.

Effects of Gender Identity on Sexual Behavior

In reviewing the literature on gender differences in sexual motivation, Baumeister, Catanese, and Vohs (2001) noted that sexual drive is best understood as frequency and intensity of the desire for sexual encounters. Therefore, someone of either gender with a relatively higher sexual drive is likely to think about sex more often, enough so that the individual is likely to feel he or she has to exercise specific control of his or her sexual feelings and thoughts. The literature suggests this is far more common among men than among women, though Baumeister et al. (2001) suggested women might often not realize they are sexually aroused, since sexual arousal in women is inherently more subtle than in men.

Even so, the studies examined by these authors found, even in marriages, whether longstanding or new marriages, husbands desired sex more often than wives, and in dating relationships, men were ready for sex much earlier than women. Of particular interest is even when fear of pregnancy is removed as a contributing factor to women's reluctance to engage in sex, as in lesbian relationships, women still reported significantly less frequent sex than men (Baumeister et al. (2001).

Baumeister et al. (2001) also found that women desired many fewer sexual partners than men and were far less likely to enjoy casual sex than men. This was not only true of heterosexual men and women, but also gay men and women. Gay men, even those in committed relationships, as well as husbands in heterosexual marriages, were far more likely to have extramarital sexual encounters than women. Women, in fact, whether married or not, are far less likely than men to initiate sexual relations. But the even more interesting finding is that gay or straight men will risk their marriages or committed relationships to have extramarital sex, whereas women tend to be much more reluctant to

risk the marriage. When women do have extramarital affairs, it is probably because they are already unhappy with the marriage and therefore do not value it enough to resist the temptation to have sex with someone else (Baumeister et al., 2001).

Whether, as Baumeister et al. (2001) contended, the stronger male sex drive cuts across all social and cultural influences, or is in some part predicated on cultural or social influences was examined by Missildine, Feldstein, Punzalan, and Parsons (2005), who surveyed 200 gay men and 143 lesbian women to determine whether, as previous research has shown, men are more focused on purely sexual behaviors and short-term relationships, whereas women are more concerned with the romantic or emotional aspects of sex and with long-term relationships. Using the Sexual Compulsivity Scale (SCS), these authors found their hypothesis supported, but added the important caveat that cultural taboos governing male and female gender roles result in women under-reporting sexual desire and sexual activity, whereas men, if anything, over-report or exaggerate both their interest in sex and their sexual activities.

Salas and Ketzenberger (2004) found that in same sex friendships, women were more likely to express emotion verbally, whereas men tended to express intimacy through shared activities. Salas and Ketzenberger however, found no significant differences between men and women expressing intimacy in relationships with the opposite sex. These authors conclude that society expects men to be more reticent and withdrawn; therefore, any lack of intimate expression might just be a lack of practice, not actual preference.

In their meta-analysis of 177 usable sources of reported data on gender differences on 21 measures of sexual attitudes and behaviors, Oliver and Hyde (1993) found the most

profound differences occurred on the masturbation and casual premarital sex measures, with, predictably, men engaging in both more often than women. Other measures with somewhat less but still significant gender differences included premarital sex among engaged couples, sexual permissiveness, anxiety or guilt about sex, support of the double standard, numbers of sexual partners, and frequency of intercourse. These authors considered their findings support Chodorow's theory (1978) that, although both boys and girls start out as babies closely attached to their mothers, boys eventually individuate and separate from their mothers, whereas girls never completely separate from mothers. The very process of individuation results in men defining their identity not in relational terms, but in independence and even devaluation of anything feminine.

Contrary to other studies (Baumeister et al., 2001 and Oliver and Hyde, 1993), Pederson and colleagues (2002) found, in their survey of 266 undergraduate students that there was little difference between the men and women in their desire to settle down with one mate in the foreseeable future. Neither the male nor female students perceived much excitement or advantage to the one-night stand or short-term relationship as opposed to the perception of the advantages of bonding with a one mate.

However, Cunningham and Russell (2004), in their survey of 143 men and women with the goal of determining the impact on partner preferences of both sex and sex-typing, found differences in attitudes towards sex were influenced by whether men conformed more to social expectations of femininity and women to social expectations of masculinity. These authors used the Bem Sex-Role Inventory (BSRI) to confirm their hypotheses that men valued physical attractiveness in their partners more than women, while women valued commitment and social status more than men. Exceptions to this

norm, though, varied with sex-typing. Men who leaned toward the feminine were likely to share sexual values with women, and the reverse was true of women who leaned more towards the masculine.

Although not specifically addressing gender roles as applied to sexual attitudes or behaviors, two studies (Eisler and Blalock, 1991; Arrindell, Kolk, Martin, Kwee, and Booms, 2003) note that masculine gender role stress (MGRS) produces various forms of psychological dysfunction, particularly obsessive-compulsive behaviors. As Eisler and Blalock noted, gender roles are learned from social expectations of what masculine should mean and what feminine should mean in terms of applied behaviors. Men, for example, are socialized to take high risk jobs and even engage in high risk leisure activities. As Baumeister et al. (2001) observed, even in nursery school, boys are encouraged to play actively compared to little girls who are directed to organized, quiet games. The masculine attitude towards all things is supposed to be dominant, competitive, and independent, which, as the authors noted, is not always productive of dysfunction but can be especially stressful in men who are not inherently inclined towards such traits.

At special risk for dysfunction due to social expectations of men are those who experience perceived physical inadequacy, are not naturally expressive, feel subordinate to women, perceive themselves as intellectually inferior, and also perceive themselves as not measuring up to accepted masculine standards in work or in sex (Eisler and Blalock, 1991; Arrindell et al., 2003). These issues have particular relevance for sexual relations, since men are socialized to compare their own sexual performance and achievements with other men as a source of power and competitiveness. The common male sexual

mythology even influences a man's ability to control erections and ejaculations, further contributing to his lack of self-respect. All of this is further exacerbated by the fact that men are also socialized to avoid emotional expression, whereas women are socialized to just the opposite and therefore better enabled to work out their problems (Eisler and Blalock, 1991).

Addiction Defined

Addiction is basically a cultural construct, i.e., whatever someone defines as addiction (Peele, 1990). One could as well define so-called drug addiction, smoking, alcoholism, and sexual compulsivity as risk-taking addiction (Zuckerman and Kuhlman, 2000), but there is little hard evidence to support the argument that most, if not all of those compulsions are physiologically based and therefore almost uncontrollable by the individual (Peele, 1990).

Peele (1990) argued that views of addiction are, in effect, trendy. Since 1929, when Light and Torrance (1929) tried to prove physiological correlates of morphine withdrawal to show that addiction is physiological, observers have increasingly accepted the concept of inevitability about substance use. Yet, as Peele (1990) pointed out, long before the Light and Torrance study and ever since that study, many have observed anecdotally, as well as in controlled studies, that many people use all sorts of allegedly addicting substances without becoming dependent on them. In fact, the use of narcotics traces back to antiquity.

Supporting this twentieth century mindset of drug addiction as an uncontrollable

disease inevitably afflicting anyone who so much as uses narcotics even sparingly was the nineteenth century temperance movement that argued any use of alcohol led inevitably to loss of control (Peele, 1990). But, as Peele (1990) argued, if any of these substances were so inevitably addicting and so consistently resulted in loss of control, how is it that prior to the nineteenth century, no one noticed, no one even commented on the phenomenon.

Berridge and Edwards (1987) observed that, although fairly widespread use of narcotics in England in the nineteenth century had actually declined by the end of that century, it was then that the medical profession “discovered” addiction, actually a case of a disease in search of patients. Although these authors themselves noted that addiction was defined as an illness, precisely because the medical profession proclaimed it an illness, their own historical analysis of narcotics use indicates just the opposite.

As to whether use of so-called addicting substances leads to loss of control and anti-social behaviors, Heath (1958), who studied the Bolivian Camba, then said to have the highest alcohol consumption rates in the world, found that drinking sprees in the culture were just that—drinking sprees held several times a month, in which participants drank until they blacked-out. In between such sprees, they did not drink at all, and even during those sprees, did not exhibit anti-social behaviors or physiological withdrawal symptoms (the standard markers for determining physiological addiction).

Peele (2000) noted that Orthodox Jews who are heavy smokers typically give up all smoking every week for the 24-hour Sabbath period, without withdrawal symptoms or loss of control.

As Peele (1990) observed, one major problem with defining what is really addiction or not is cultural differences in perceptions of acceptable behaviors. The loss-of-control model has been most promoted by Calvinistic Protestant groups, but other identifiable ethnic groups with even stricter prohibitions against anti-social behaviors vary in rates of alcoholism, from the Irish Catholics with high alcoholism rates to Jews and Chinese-Americans with very low alcoholism rates. Peele therefore argued that the addictive model in the U.S., while purporting to be value-free (much less ethnically unprejudiced), is actually based on the moral message of the evil attractions and temptations of the whole drug experience (Peele, 1990).

The result in treatment terms is an ongoing conflict between those who insist that so-called addicts should be held responsible for their conduct, implying treatment within the criminal justice model and those who claim that alcohol or other drugs are physiologically addicting, therefore requiring treatment within the medical model (Peele, 1990).

Neither of these views serves to counsel addicts, nor recognizes the reality of addiction. Addiction is real; it is whatever activity someone is immersed in to the exclusion or near-exclusion of the rest of his usual life activities (Peele, 2000). Shaler noted that libertarians attack the very notion of addiction on the grounds that all compulsive behaviors are purposive and it is impossible to separate intensive compulsive behaviors from ordinary intentional behaviour (1999). But Peele (2000) points to

various celebrity deaths from drug abuse among individuals who were entirely aware of the dangers of over-using drugs, were threatened with criminal charges for obtaining illegal substances, and yet persisted in their self-destructive behaviors until they died—of drug overdoses or drug-related conditions.

Peele (2000) therefore defined the parameters of addiction as follows:

- It is known through subjective experience.
- It is not an all-or-nothing experience.
- It can occur with any self-destructive activity.
- It might occur with the gestalt of psychic or pharmacological experience.
- It is perceived as providing experiential benefits, such as a sense of power and control or relief of pain or anxiety.

Peele (2000) further identified social predilections for addiction. Addiction is more prevalent in socially deprived and some ethnic groups, even when some of these groups have higher abstinence rates. Addiction is sometimes situational, as in Vietnam, or developmental or ritualistic, as in the case of late adolescents trying out risky behaviors. Addiction is cognitive, as in believing the behavior is dangerous but also modelling the behavior on the example of others. Addiction or its absence can be influenced by community values or individuals' evolving values, such as parenthood. Peele (2000), in fact, considered values the most important determinant of addiction and the one most often overlooked by all researchers.

Compulsive Sex Behaviors

Noting that certain personality traits, such as sensation-seeking and impulsivity, are characteristic of approaches to the reward/risk conflict, Zuckerman and Kuhlman (2000) hypothesized that risk-taking personality traits correlated with specific risky behaviors: drinking, smoking, drug use, sexual behaviors, driving habits, and gambling. Surveying 260 college students (101 males and 159 females), these authors developed a Life Experience Questionnaire whose answers from subjects could be correlated with answers to the authors' Zuckerman-Kuhlman Personality Questionnaire (ZKPQ), used to assess the five risk-prone personality traits: impulsive sensation-seeking, neuroticism-anxiety, aggression-hostility, activity, and sociability (Zuckerman and Kuhlman, 2000). As well, the authors also sought to determine whether there were gender differences in personality and risk-taking.

The results of the study showed that risk-taking personality traits correlated most strongly with drinking, smoking, drugs, and sex, though they noted that the disinhibiting effects of alcohol and drugs probably increased the incidence of risky sexual behaviors. Those personality traits most related to general risk-taking (as measured by the ZKPQ) were impulsive sensation-seeking, aggression, and sociability, with men more likely to engage in any risky behavior than women (Zuckerman and Kuhlman, 2000). These authors also noted that personality traits associated with risk-taking are moderately to strongly heritable due to low MAO levels present in high sensation seekers and their interactions with monoamine neurotransmitters.

The AIDS epidemic having focused much research attention on risky sexual

behaviors, Hoyle, Fejfar, and Miller (2000) also examined risk-taking personality traits but specifically as correlated with sexual risk taking. The authors used a database search yielding 53 usable sources to correlate psychoticism, extraversion, neuroticism, impulsive sensation-seeking, aggression-hostility, neuroticism-anxiety, novelty seeking, harm avoidance, reward dependence, impulsivity, agreeableness, conscientiousness, openness, positive and negative emotionality, and constraint with risky sexual behaviors. Risky sexual behaviors were defined as sex with multiple partners, unprotected sex, sex with strangers, and sexual activity accompanied by drug or alcohol use (Hoyle et al., 2000).

As the authors expected, sensation-seeking and impulsivity were the personality traits most likely to drive risk-taking sexual behaviors. Unexpected was their finding that risk appraisal varied little between low and high sensation seekers, which they attribute to the fact that after engaging in a high-risk activity, high sensation seekers rationalize it as less risky (Hoyle et al., 2000). Conscientiousness, predictably negatively associated with sexual risk-taking, was, in this study, mainly associated with unprotected sex. Also, like Zuckerman and Kuhlman (2000), Hoyle et al. (2000) found neuroticism was not significantly related to sexual risk-taking behaviors.

Krueger and Kaplan (2001) reviewed paraphilias and hypersexual disorders with a view to better definition of both disorders and better understanding of just how dysfunctional either were or were not and to what extent they co-exist in the same individuals. As the authors noted, the DSM-IV diagnostic criteria for paraphilias include: recurrent, sexually arousing fantasies, sexual urges or behaviors involving nonhuman objects, humiliating oneself or one's partner, or involving children or other nonconsenting persons in one's sexual behaviors, provided these behaviors cause

significant distress or impairment in social or occupational functioning. In fact, as Krueger and Kaplan (2001) themselves noted, paraphilias might not necessarily be dysfunctional if they are part of the mutual sexual expressions of consenting adult partners.

Hypersexual disorders are most commonly associated with obsessive-compulsive disorder (OCD). The specific behaviors, which include compulsive masturbation, protracted promiscuity, pornography dependence, phone sex dependence, cybersex dependence, and severe sexual desire incompatibility, might on the surface seem impulsive, but they are characterized by the lack of impulse control of other obsessive behaviors (Krueger and Kaplan, 2001).

Even so, in obsessive-compulsive disorder, the obsessive and compulsive behaviors are usually viewed as unpleasant and unwanted by the patient, whereas sexual obsessions and compulsions are frequently pleasurable and ego-syntonic (Krueger and Kaplan, 2001). Only when there are legal or social consequences does hypersexual disorder become ego-dystonic. In fact, as Krueger and Kaplan (2001) noted, so little is understood about either paraphilias and hypersexual disorders compared to what is generally considered normal, typical sexual interest and activity, that it generally does take the legal, rather than the medical model to bring affected individuals into therapy.

Surveying 31 self-defined sex addicts, Bancroft and Vukadinovic (2004) examined sexual addiction, sexual compulsivity, and sexual impulsivity as these behaviors correlated with mood and affect. They found that increased sexual interest and responsiveness while experiencing negative mood states was more common in men with

uncontrolled sexual behaviour. However, there was no clear link between defined psychiatric conditions and the sexual behavior (Bancroft and Vukadinovic, 2004).

Overall, Bancroft and Vukadinovic (2004) found that affect was the most important contributing factor to uncontrolled sex, though there was variation among this study's subjects as to whether sexual interest was maintained during depressive moods or whether sexual stimulation was used to distract from negative mood swings. As well, self-regulation of sexual behavior is confounded by such conflicting standards as religion or other social forces.

Studying 492 mostly African-American men and 193 women treated for sexually transmitted infections (STI's) in a city clinic, Kalichman and Cain (2004) sought to determine whether high-risk and compulsive sexual behaviors were associated with drug and alcohol use. High-risk behaviors were considered to be unprotected sex, sex with multiple partners, frequency of vaginal and anal intercourse, as well as use of alcohol or drugs associated with sex.

Using the Sexual Compulsivity Scale (SCS), these authors found men scored significantly higher on the SCS than women, but in both genders, high SCS scores correlated with greater frequency of all high-risk sexual behaviors. Even so, the authors note that their sample disproportionately represented African-Americans, people with prior history of imprisonment, and people with STI's (Kalichman and Cain, 2004).

Bergner (2002) offered a four-part theory of sexual compulsion that comprises:
a) sexually compulsive persons are obsessed with repeated re-enactment of preferred sexual scenarios; b) the scenarios are rooted in early experience of degradation, therefore

constitute attempts to recover from the degradation; c) the scenarios also serve as impossible standards for compulsive individuals to measure their relationships and achievements, therefore making it impossible for them to measure up and achieve satisfaction; and d) recovery from degradation is never achieved, but in fact, the sexual experience leaves the individual feeling even more degraded. Predictably, the individual becomes locked-into a compulsive cycle of repeating his preferred sexual scenarios.

In sharp contrast to Peele (1999, 2000), who argued that sexual addiction is only a pathological condition, because doctors claim it is, Bergner (2002) posits his entire theory on the assertion that people who are sexually compulsive are ipso facto degraded, subjected through much of their lives to experiences that have convinced them they were somehow less than co-equal members of their own communities. Bergner supports this theory by noting that many sexually compulsive persons have experienced sexual, physical, or emotional abuse as children, but the degrading experience can be as subtle as parents repressing a child's natural curiosity about sex. Moreover, such persons engage in degradation because they believe they should be punished and if punished will somehow undo past harms. Bergner concludes that therapy for sexual compulsion, therefore, should focus on diminishing the client's perceived sources of degradation.

Peele (1999, 2000a), however, argued that while sex can be addictive, it is a mistake to regard sexual addiction as a disease. In fact, in some cultures, what we consider indiscriminate sex might be acceptable and common behavior. We might find it impossible to accept indiscriminate sex as reasonable behavior, but we can look at sexual addiction in the context of understanding how ordinary people sometimes find an otherwise common experience exceptionally powerful and consuming. As Peele (1999)

observed, that someone uncharacteristically has a wild sexual affair once or even occasionally does not mean he is congenitally addicted to sex or even ordinarily preoccupied with sexual fantasies and behaviors. In fact, Peele (2000a) concluded sexual addiction is only a disease when someone thinks someone else is having too much sex, but that would apply to anything done in excess of ordinary community standards.

Bem Sex Role Inventory

Bem (1974) first presented the Bem Sex Role Inventory (BSRI) in 1974 as a method of defining masculinity and femininity as two separate and distinct dimensions. Going further than previous scales of masculinity and femininity, the BSRI was based on the concept that a sex-typed person was someone who had internalized community standards for acceptable behaviors for men and women, as opposed to self-reported perceptions of masculinity and femininity.

The BSRI includes 20 masculine personality traits, 20 feminine personality traits, and 20 neutral traits (Bem, 1974). Scoring from 1 to 7 is based on subjects' perceptions of how closely they or other individuals conform to either masculine or feminine personality traits. Thus, a high negative score represents a full endorsement of masculine attributes with concurrent rejection of feminine attributes, while a high positive score represents the endorsement of feminine attributes with concurrent rejection of masculine attributes. In between those extremes is the androgyny score based on the degree of subjects' endorsement of both feminine and masculine traits in themselves or others. The lower the androgyny score is, the more androgynous the individual. Bem's objective in

developing the BSRI was to promote a more flexible view of sex-typed self-concepts (Bem, 1974).

Thirty years after the BSRI was first presented, Oswald (2004) found its categories still were applicable to the task of categorizing men and women of various ages, though her findings showed much more androgyny than Bem had in 1974, suggesting community standards of traditional gender roles had significantly influenced self-perceptions of appropriate masculine and feminine traits.

Choi and Fuqua (2003), however, found that the BSRI was too simplistic to adequately measure the complexities of masculine and feminine personality traits or perceptions of such traits. Their argument was based in large part on the homogeneity of the original subjects—college students—whereas a more heterogenous group of subjects would have demonstrated the need for a more complex structure to such a test.

Sexual Compulsivity Scale

Sexual compulsivity has been defined as repetitive, intrusive, and (usually) unwanted urges to engage in ritual acts or a persistent pattern of participation in sexual activities that, as they escalate in intensity and frequency, lead to destructive consequences for the participant and possibly others (Dodge, Reece, Cole, and Sandfort, 2004). This definition was used as the basis of the Sexual Compulsivity Scale (SCS) that itself was derived from a self-help guide for people who experienced persistent difficulty in controlling

their sexual thoughts and behaviors or believed themselves to be addicted to sex (Kalichman and Rompa, 2001).

The term, sexual compulsivity, is often used interchangeably or overlapping with sexual addiction or sexual impulsivity or even hypersexuality, but as a distinct phenomenon, it can be quantified and qualified by the SCS. The purpose of the SCS itself is to determine underlying compulsive personality characteristics that correlate with resistance to changes in sexual behaviors despite awareness of the risks of compulsive or impulsive sexual behaviors (Dodge et al., 2004).

The SCS is a ten-item, four-point scale measuring such psychological constructs as loneliness, self-esteem, sexual self-control, anxiety, depression, and obsessive-compulsiveness (Dodge et al., 2004). These authors tested the validity and reliability of the SCS in their survey of 899 university students, finding that sexual compulsivity is a valid description of elevated levels of sexual activities with multiple partners and, in turn, that individuals reporting high-risk sexual activity were likely to score high on sexual compulsivity. The authors did note, however, that their findings were limited to college students and might be somewhat different among other populations and that the SCS correlated more consistently with solo sexual activities than with partnered sexual activities.

Kalichman and Rompa (2001), evaluating the psychometric features of the SCS in their study of 197 HIV-positive men and 90 HIV-positive women, found the SCS to be internally consistent and reliable for both men and women, despite gender differences in patterns of association between SCS scores and other personality trait measures. Like Dodge et al. (2004), these authors found the SCS correlated more consistently with solo

sexual activity for both men and women, but overall found convergent validity for both men and women with respect to personality disturbance and emotional distress (Kalichman and Rompa, 2001).

RESEARCH GOAL

The goal of this study was to examine the relationship of sexually compulsive behavior and sex roles between healthy male and female volunteers and within each sex as well. Therefore, the Sexual Compulsivity Scale (SCS) and the Bem Sex Role Inventory (BSRI) were simultaneously employed in an unbiased cross-sectional sample of healthy university students. The hypothesis was that people who have higher scores on the SCS will also score higher in the masculine area of the BSRI.

This study attempted to answer the following questions:

- Can the SCS (given the controversial discussion of sexual compulsivity) be used in healthy college students in a New York university to identify people with significantly different patterns of sexually driven behavior?
- Can we confirm the current literature that men score significantly higher in the SCS than women?
- Can we confirm previous studies of the BSRI (originally developed in 1974) that this instrument is adequate to assess masculinity and femininity in a modern metropolitan population?
- Can we exclude that other possibly confounding variables are predominant on the SCS / BSRI scores, e.g. addictive behaviors (smoking, alcohol, illicit drugs), sexual orientation, relationship status, religion, age or ethnicity?
- Can we identify a correlation between the SCS score and certain BSRI areas in healthy university students? Will people who score highly on the SCS also score highly in the masculine areas of the BSRI or the masculine and feminine areas?

METHODOLOGY

Study population

The study was performed with 116 university students enrolled in general psychology at the City University of New York (CUNY), NY. The students were asked to volunteer for participation in the study. Participants were told that the study aims to investigate the relationship between personality and sexual behavior among university students (see Appendix 3). Participants were handed the questionnaires, completed them anonymously and placed them in a folder in the front of the classroom when completed. No incentives were provided. The study proposal was presented to the CUNY institutional review board (IRB) and conducted after IRB approval.

Demographics

Participants were asked to provide information on their age, sexual orientation (men who sleep with women, men who sleep with men, men who sleep with men and women, women who sleep with men, women who sleep with women, women who sleep with men and women), relationship status (single – not dating, single – casually dating, partnered – not monogamous, partnered – monogamous), religion, ethnicity, drug and alcohol use, smoking and use of psychiatric medication (see Appendix 3).

Sexual Compulsivity Scale (SCS)

The SCS, developed by Kalichman and Rompa (1995), is a 10-item, Likert-type measure that asks respondents to endorse the extent to which they agree with a series of statements related to sexually compulsive behavior, sexual preoccupations, and sexually intrusive thoughts (Kalichman et al., 1994). Items were derived from a sexual addictions self-help guide and were anchored on 4-point scales ranging from 1 (not at all like me) to 4 (very much like me). Sample questions include, “My desires to have sex have disrupted my daily life,” “I find myself thinking about sex while doing other things,” “I have to struggle to control my sexual thoughts and behaviors,” and “I think about sex more than I would like to.” (for the complete SCS, see Appendix 4). Previous studies have found this measure to possess reliability among both HIV positive and HIV negative populations particularly gay and bisexual men, and the scale has been shown to be internally consistent across gender (Kalichman & Rompa, 1995, 2001). The SCS has also been validated in heterosexual college students (Dodge et al., 2004).

Bem Sex Role Inventory (BSRI)

The BSRI, developed and repeatedly modified by Bem, is a 7 point Likert-type scale designed to assess psychological androgyny. The final inventory consists of three groups of 20 items; Masculine, Feminine and Neutral (see Appendix 5). Initially, the BSRI was used exclusively to classify people into three types of sex role categories- feminine, masculine and androgynous. For instance, a sex-typed woman is one who

scores highly on the feminine area of the instrument, characterizing her as cooperative, dependent and yielding. A sex-typed man, therefore would be a man who scores highly on the masculine area of the BSRI, characterizing him as a leader- aggressive and assertive (Bem, 1974). In this study, however, the interest is not to classify individuals as masculine, feminine or androgynous, but to quantify the participants' levels of masculine or feminine traits, as supported by various similar studies (Choi & Fuqua, 2003; Bernard, 1981; Blanchard-Fields, 1994). {Note- if an individual scores below the median in both masculine and feminine characteristics, then that individual is labeled as undifferentiated.}

Statistics

Data was analyzed by descriptive and inferential statistics. The statistical analysis was performed using SPSS (Statistical Package for Social Sciences, Version 13, SPSS Inc., Chicago, IL). Correlation analysis was performed with the Spearman rank correlation test (due to skewed distribution of some variables). Subgroups were analyzed in cross-tabulation of inventory or demographic characteristics (e.g. sex, race). Two groups were compared using the non-parametric Mann-Whitney-U-test. Comparisons between more than two subgroups were done using ANOVA (analysis of variances)-based Kruskal-Wallis-tests and the Mann-Whitney-U-test for post-hoc analysis. Differences between groups are displayed by box-and-whiskers plots showing a statistical summary of the median (bold line), quartiles (box), range and extreme values. The whiskers extend from the minimum to the maximum value excluding outside (>1.5 times

upper/lower quartile, open circle) and “far out” (>3 time upper/lower quartile, asterixes) values which are displayed separately.

RESULTS

Study Population

The study comprised of 116 students in total, of which 54 (47%) were male and 62 (53%) female. (General characteristics of the population are shown in Table 1.) The age of participants ranged between 17 and 54 years old. With regards to race, students identified themselves as Hispanic (41%) and African American (30%) with the remaining identifying themselves as Caucasian (21%) or Asian (7%). Half of the students (50%) considered themselves Catholic, while the next largest groups considered themselves Protestant (16%), and Spiritual (11%). A large proportion of participants (36%) were in monogamous relationships, while the remaining students were roughly evenly split between single- dating (29%) and single- not dating (26%). A small number of students reported themselves as being in a relationship but not monogamous. The vast majority of students described themselves as heterosexual, and only 9% of students described themselves as homosexual or bisexual. There were no self-identified lesbians among this population.

Table 1. Characteristics of the study population.

Basic characteristics of the study population were assessed by a questionnaire and are presented in the table both for the whole population and separated into male and female volunteers. The frequency (n, and in %) is given, if not otherwise indicated.

variable		total group	male	female
	n (%)	116	54 (47%)	62 (53%)
age, mean \pm SD (range)	[years]	26 \pm 8 (17-54)	26 \pm 8 (17-52)	26 \pm 8 (18-54)
race	n (%)			
African American		35 (30%)	16 (30%)	19 (31%)
Caucasian		24 (21%)	12 (22%)	12 (20%)
Hispanic		47 (41%)	21 (39%)	26 (43%)
Asian		8 (7%)	5 (9%)	3 (5%)
other		1 (1%)	0 (0%)	1(1%)
religion	n (%)			
catholic		55 (50%)	26 (52%)	29 (48%)
protestant		18 (16%)	5 (10%)	13 (22%)
muslim		3 (3%)	2 (4%)	1 (2%)
jewish		2 (2%)	0 (0%)	2 (3%)
hindu		1 (1%)	0 (0%)	1 (2%)
buddhist		2 (2%)	1 (2%)	1 (2%)
agnostic		6 (6%)	4 (8%)	2 (3%)
atheist		4 (4%)	3 (6%)	1 (2%)
spiritual		12 (11%)	6 (12%)	6 (10%)
other		7 (6%)	3 (6%)	4 (7%)
relationship status	n (%)			
single – not dating		30 (26%)	15 (28%)	15 (25%)
single – dating		33 (29%)	14 (27%)	19 (31%)
partnered – monogamous		41 (36%)	17 (32%)	24 (39%)
partnered – not monogamous		10 (9%)	7 (13%)	3 (5%)
sexual orientation	n (%)			
heterosexual		105 (91%)	44 (82%)	61 (98%)
homosexual		8 (7%)	8 (15%)	0 (0%)
bisexual		3 (2%)	2 (4%)	1 (2%)
history of psychiatric medication	n(%)	16 (14%)	6 (11%)	10 (16%)

Alcohol and drug use was assessed among all participants in order to be able to identify prominent addictive behavior patterns that could potentially impact the scoring in the SCS or BSRI. The findings are summarized in Table 2. Analysis showed that approximately 10% of the students were aware of a current or past drinking problem as well as about 10% aware of a current or past drug problem. 19 students (16%) were smokers. Both, alcohol and drug use were more frequently observed in male compared to female students. To allow a more subtle analysis, these responses were further broken down into different categories of addictive tendencies (see Tables 6 and 7).

Table 2. Addictive behavior patterns in the study population.

Alcohol and drug use of the study population were assessed by a questionnaire and are presented in the table both for the whole population and separated into male and female volunteers. The frequency (n, and in %) is given, if not otherwise indicated.

*, quantified as “drinks per week”

variable	total group	male	female
n (%)	116	54 (47%)	62 (53%)
alcoholic consumption per week*			
0	61 (53%)	28 (52%)	33 (53%)
1-3	40 (35%)	17 (32%)	23 (37%)
4-7	11 (10%)	8 (15%)	3 (5%)
>7	4 (3%)	1 (2%)	3 (5%)
self-awareness of drinking problem	8 (7%)	6 (11%)	2 (3%)
failure of solving drinking problem	2 (2%)		2 (3%)
tobacco use	19 (16%)	10 (19%)	9 (15%)
self-awareness of a drug problem	6 (5%)	4 (8%)	2 (3%)
failure of solving drug problem	4 (4%)	4(8%)	
history of experimentation with drugs	57 (49%)	29 (54%)	28 (45%)
current drug use per month			
0	96 (84%)	42 (79%)	54 (89%)
1-3	12 (11%)	6 (11%)	6 (10%)
>3	6 (5%)	5 (9%)	1 (2%)

Analysis of the SCS

The SCS was analyzed such that the mean value for the ten statements was assessed per participant. For simplicity, this will be named “SCS score”. The mean SCS score (\pm SD) was 1.51 ± 0.59 for the whole population, the median was 1.33 (range 1.0-3.9). The SCS differed significantly between male and female students ($p=0.013$, Fig. 1); the

statistical values are given in Table 3. In both sexes, the SCS score was not normally distributed, but skewed towards lower values. Therefore, the median and range should be quoted and the non-parametric U-Test was applied. However, previous literature (see Table 14) usually showed mean and SD values for similar populations. In order to allow a direct comparison of the results gained in this examination with prior studies, the mean and SD are also presented.

Table 3. SCS score among male and female students.

The SCS score was assessed by a questionnaire. Descriptive statistical values for the SCS score are presented. The difference between male and female students was significant at a p-value of 0.013 (Mann-Whitney U-Test).

SCS score	male	female	p-value
mean \pm SD	1.62 \pm 0.63	1.41 \pm 0.54	0.013
median	1.50	1.20	
range	1.0 – 3.9	1.0 – 3.4	

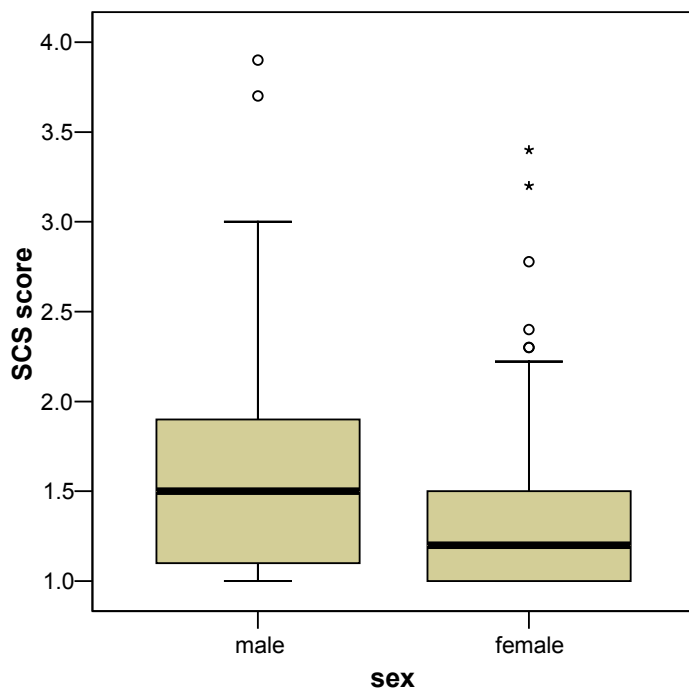


Fig. 1. SCS score in male and female students.

The SCS score differs significantly between male ($n=54$, median 1.5) and female ($n=62$, median 1.2) students ($p=0.013$, U-Test). The box-and-whiskers plots display a statistical summary of the median (bold line), quartiles (box), range and extreme values. The whiskers extend from the minimum to the maximum value excluding outside (>1.5 times upper/lower quartile, open circle) and “far out” (>3 time upper/lower quartile, asterixes) values which are displayed separately.

The mean values for each item of the SCS were analyzed separately for male and female students in order to identify single statements that are more prominent and single statements that show pronounced differences between the sexes (Fig. 2). In both sexes, statement 6 (I find myself thinking about sex while at work) was by far the highest scoring statement. Comparing male and female students, interestingly, statement 1 (My sexual appetite has gotten in the way of my relationships) was more often ranked higher

in males, whereas statement 4 (I sometimes fail to meet my commitments and responsibilities because of my sexual behavior) was particularly irrelevant to female participants. Statement 9 (I think about sex more than I would like to) did not differ between male and female participants, however, given the lower average for SCS scores on other statements in females, this statement scored relatively higher among women.

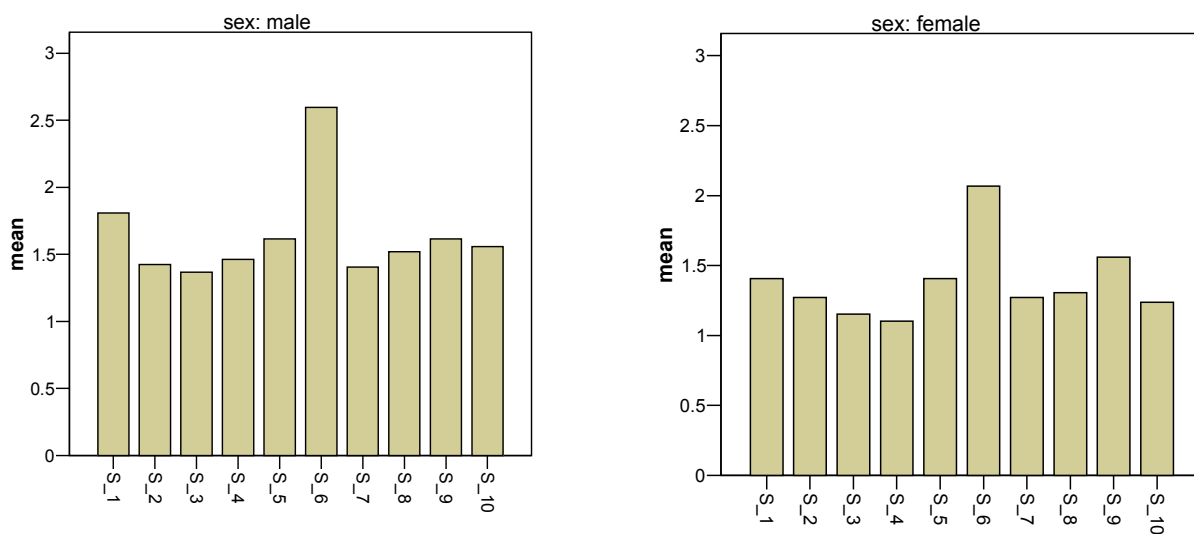


Fig. 2. Single-item analysis of the SCS in male and female students.

The mean values for each item of the SCS are displayed separately for male (left) and female (right) students in order to identify single statements that are more prominent and single statements that show pronounced differences between the sexes. S_1 to S_10 indicates statements from the SCS.

The single statements on the SCS were then correlated with the overall mean SCS score in order to identify those statements that were predictive for the mean SCS score. The statement with the highest correlation coefficient (to the mean SCS) would be the most indicative one for an individual's SCS score. In men, statement 1 (My sexual appetite has gotten in the way of my relationships), statement 2 (My sexual thoughts and behaviors are causing problems in my life) and statement 10 (It has been difficult for me to find sex partners who desire having sex as much as I want to) showed the closest correlation. In women, statement 6 (I find myself thinking about sex at work) and statement 9 (I think about sex more than I would like to) were closely associated to the mean SCS score (See Table 4).

Table 4. Correlation of single items in SCS with the SCS score in male and female students.

Spearman rank correlation test was performed to assess the degree of linear correlation between each single item in the SCS and the mean SCS score. Data are presented separately for male and female students. r, correlation coefficient; p, p-value.

		S_1	S_2	S_3	S_4	S_5	S_6	S_7	S_8	S_9	S_10
male	r	0.750	0.567	0.597	0.500	0.684	0.439	0.719	0.648	0.504	0.737
	p	<0.001									
female	r	0.437	0.473	0.502	0.493	0.677	0.714	0.656	0.573	0.737	0.507
	p	<0.001									

The students' ages were inversely, though weakly correlated with the SCS score ($r = -0.185$, $p=0.049$, Spearman rank correlation test). However, if male and female students were analyzed separately, no significant correlation between age and SCS score could be identified (data not shown).

Table 5. SCS score among subgroups of male and female students.

The total population and male or female students were analyzed in subgroups according to their race, religion, relationship status and sexual orientation. The median SCS (range in parenthesis) for these subgroups are given. N.a., not applicable. For subgroups with $n < 4$, no median SCS score is given.

variable	total group	male	female
n (%)	116	54 (47%)	62 (53%)
race median SCS score (range)			
African American	1.30 (1.0-3.7)	1.50 (1.0-3.7)	1.20 (1.0-3.4)
Caucasian	1.20 (1.0-3.9)	1.45 (1.1-3.9)	1.15 (1.0-1.7)
Hispanic	1.40 (1.0-3.0)	1.50 (1.0-3.0)	1.40 (1.0-2.8)
Asian	1.37 (1.0-3.0)	1.33 (1.0-1.7)	1.40 (1.0-2.1)
religion median SCS score (range)			
catholic	1.40 (1.0-3.9)	1.45 (1.0-3.9)	1.40 (1.0-2.8)
protestant	1.30 (1.0-3.4)	1.60 (1.2-2.5)	1.20 (1.0-3.4)
agnostic	1.33 (1.1-1.6)	1.25 (1.1-1.6)	n.a.
atheist	1.35 (1.1-3.7)	1.40 (1.3-3.7)	n.a.
spiritual	1.85 (1.0-3.2)	2.10 (1.5-2.6)	1.15 (1.1-3.2)
relationship status median SCS score (range)			
single – not dating	1.20 (1.0-3.4)	1.33 (1.0-2.5)	1.00 (1.0-3.4)
single – dating	1.50 (1.0-3.2)	1.50 (1.1-3.0)	1.30 (1.0-3.2)
partnered – monogamous	1.30 (1.0-3.9)	1.40 (1.0-3.9)	1.25 (1.0-2.3)
partnered – not monogamous	1.55 (1.0-3.7)	1.80 (1.0-3.7)	1.30 (1.1-1.5)
sexual orientation median SCS score (range)			
heterosexual	1.33 (1.0-3.9)	1.50 (1.0-3.9)	1.20 (1.0-3.4)
homosexual	1.45 (1.1-2.6)	1.45 (1.1-2.6)	n.a.

The SCS scores in the different subgroups were then tested for statistical significance by the analysis of variance (ANOVA) based Kruskal-Wallis-test followed by Mann-Whitney U-test for post-hoc analysis. If all students were analyzed, only minor

differences in the median SCS score were seen for different ethnicities (see Table 5), and these differences were not significant. This was also found, when male and female students were analyzed separately. If religion was chosen as a characteristic for all students, “spiritual” people tend to score higher (see Table 5). However, only spiritual men scored significantly higher in the SCS compared to those members of the other assessed religions ($p=0.006$). No such impact of religion on the SCS was found for female students (not shown). There was no significant difference on SCS scores with regard to relationship status or sexual orientation. It is important to note the small subgroups in this study which may not have allowed accurate detection of smaller differences.

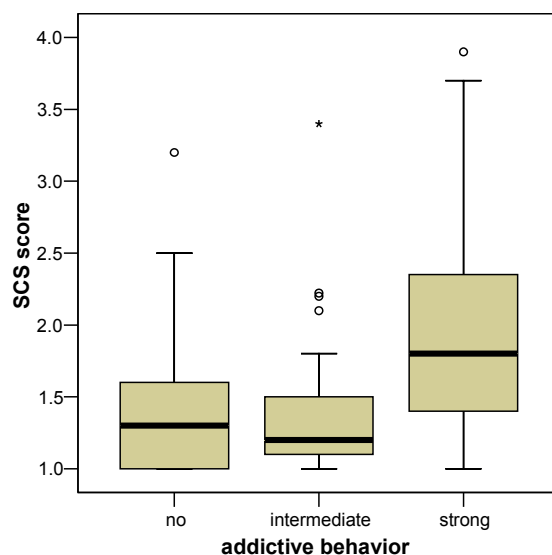


Fig.3. SCS score and addictive behavior.

Students were split into three groups according to their general addictive behavior (see main text for details). The SCS score is increased in students with strong signs of addictive behavior. Box- and whisker-plots are presented as described in Fig.1.

Students were split into three groups according to their general addictive behavior. Students who smoked and were aware of having a drinking or drug problem were placed in the Strong addictive tendency category (21%). Students who answered positively to smoking, experimenting with drug use or who frequently used alcohol/drugs were placed in the Intermediate category (35%). The remaining 44% showed no signs of addictive tendencies and were grouped as such. There was a significant difference between SCS scores between students who showed no signs of addiction and those who showed strong signs of addiction as well as between the intermediate and strong groups (as shown in Table 7).

Students who had positive responses to being aware of now or previously having a drinking or drug problem, tobacco use and trying to decrease alcohol and/or drug use without success were assigned to one of three categories; no signs of addictive behavior, intermediate signs of addictive behavior, or strong signs of addictive behavior.

Table 6. SCS score and addictive behavior.

addictive behavior		total group	male	female
	n (%)	116	54	62
no	n (%)	51 (44%)	23 (43%)	28 (45%)
intermediate		41 (35%)	18 (33%)	23 (37%)
strong		24 (21%)	13 (24%)	11 (18%)
no	median SCS (range)	1.30 (1.0-3.2)	1.40 (1.0-2.5)	1.10 (1.0-3.2)
intermediate		1.20 (1.0-3.4)	1.25 (1.0-2.2)	1.20 (1.0-3.4)
strong		1.80 (1.0-3.9)	2.00 (1.1-3.9)	1.50 (1.0-2.8)

In accordance with the categories of addictive behavior, those with strong addictive behavior scored significantly higher than those with no or intermediate signs of addictive behavior ($p < 0.001$ for all students, $p < 0.05$ if males and females were analyzed separately). The SCS score did not differ between students with no or intermediate signs of addictive behavior (not shown).

Table 7. Significance of SCS scores and addictive behavior. The SCS scores for participants according to their addictive behavior (Table 6) were tested for statistical significance by ANOVA. P-values from the post-hoc analysis (U-test) are presented for the total population as well as male and female students. int., intermediate; n.s., not significant.

<i>p-values</i>	all students		male students		female students	
	int.	strong	int.	strong	int.	strong
no	n.s.	<0.001	n.s.	0.007	n.s.	0.018
intermediate	-	<0.001	-	0.003	-	0.042
strong	<0.001	-	0.003	-	0.042	-

Analysis of the BSRI

The “key values” of the BSRI instrument were assessed for this population (presented in Table 8). In accordance with the initial analysis by Bem (Bem, 1974), the researcher simultaneously assessed the individual femininity and masculinity score as well as the “sextype” which reflects if an individual scores high (above a threshold defined by a control population) only in the femininity (“feminine” sextype), only in the masculinity (“masculine”), in both (“androgynous”) or in none (“undifferentiated”), see Table 8.

Table 8. BSRI score in the study population.

The BSRI score was assessed by a questionnaire. Descriptive statistical values for the BSRI score are presented for all participants and among male and female students.

variable	total group	male	female
n (%)	116	54 (47%)	62 (53%)
<i>Femininity "raw score"</i>			
mean \pm SD	4.84 \pm 0.79	4.64 \pm 0.79	5.01 \pm 0.76
median	4.88	4.70	5.10
range	2.30-6.55	2.75-6.05	2.30-6.55
<i>Masculinity "raw score"</i>			
mean \pm SD	4.94 \pm 0.91	5.02 \pm 0.92	4.87 \pm 0.90
median	4.94	5.10	5.03
range	2.29-6.60	2.29-6.55	2.95-6.60
<i>Femininity "T-score"</i>			
mean \pm SD	50.4 \pm 13.4	47.0 \pm 13.3	53.4 \pm 12.9
median	51	48	55
range	7-79	15-71	7-79
<i>Masculinity "T-score"</i>			
mean \pm SD	49.8 \pm 13.4	51.0 \pm 13.6	48.8 \pm 13.2
median	51	52	51
range	11-74	11-74	21-74
<i>overall "sextype"</i>	n(%)		
masculine (high masc.-low fem.)	23 (20%)	14 (26%)	9 (15%)
feminine (high fem.-low masc.)	13 (11%)	5 (9%)	8 (13%)
androgynous (high-high)	43 (37%)	16 (30%)	27 (43%)
undifferentiated (low-low)	37 (32%)	19 (35%)	18 (29%)

The differences between male and female students in the BSRI have been tested for statistical significance using the Mann-Whitney U-test. Whereas female students show significantly higher femininity scores than male students ($p=0.007$ for both, raw score and T-score), the difference in the masculinity scores is not statistically significant ($p=0.324$ and $p=0.309$, respectively).

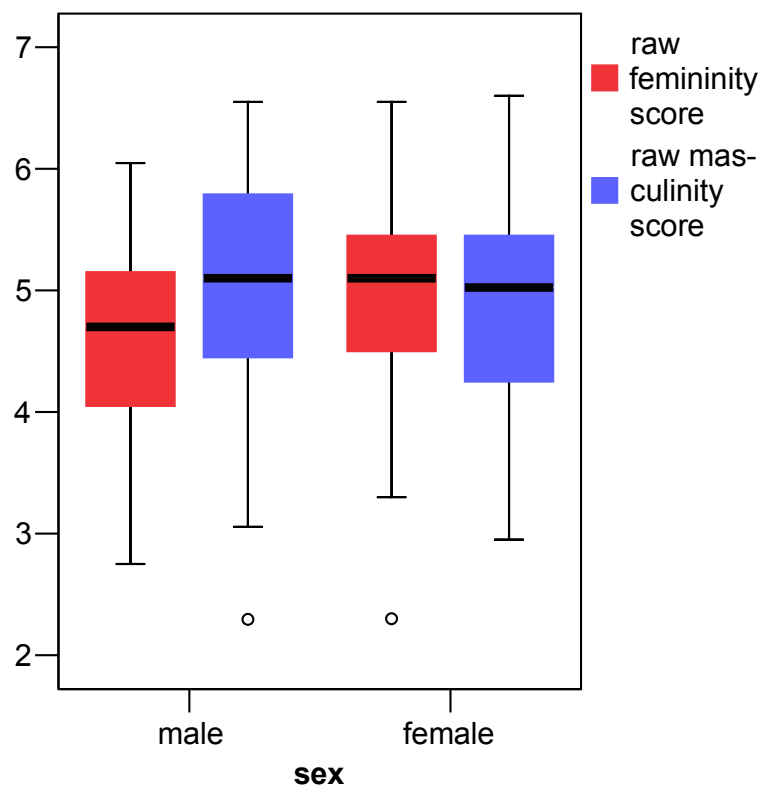


Fig. 4. BSRI masculinity and femininity scores among male and female students. Female students scored significantly higher on femininity than males ($p=0.007$, U-test), whereas both groups did not differ in the masculinity score.

The BSRI scores were further analyzed in subgroups according to the demographic characteristics. Detailed data are presented in Table 9. Interesting tendencies about

associations between characteristics such as ethnicity, religion or relationship status can be observed. However, these differences were not statistically significant, most likely due to the small size of the subgroups. For instance, female Asian students show comparatively low scores in both femininity and masculinity (Table 9), or highest masculinity scores are found for male African-American or male atheist participants.

Table 9. BSRI scores among subgroups of male and female students.

The total population and male or female students were analyzed in subgroups according to their race, religion, relationship status and sexual orientation. The mean femininity and masculinity raw scores + SD for these subgroups are given. N.a., not applicable. For subgroups where $n < 4$, no mean BSRI scores are given.

variable	total group	male	female
n (%)	116	54 (47%)	62 (53%)
race mean femininity score \pm SD			
African American	4.90 \pm 0.84	4.74 \pm 0.82	5.04 \pm 0.86
Caucasian	4.76 \pm 0.64	4.45 \pm 0.54	5.06 \pm 0.59
Hispanic	4.84 \pm 0.81	4.65 \pm 0.81	4.98 \pm 0.79
Asian	4.72 \pm 1.05	4.74 \pm 1.25	4.68 \pm 0.88
race mean masculinity score \pm SD			
African American	5.09 \pm 0.93	5.01 \pm 0.98	5.11 \pm 0.92
Caucasian	4.81 \pm 0.66	4.73 \pm 0.62	4.89 \pm 0.72
Hispanic	4.93 \pm 0.97	5.13 \pm 0.96	4.77 \pm 0.97
Asian	4.64 \pm 1.18	5.10 \pm 1.23	3.87 \pm 0.38
religion mean fem. score \pm SD			
catholic	4.82 \pm 0.81	4.65 \pm 0.80	4.96 \pm 0.80
protestant	5.12 \pm 0.47	4.87 \pm 0.51	5.22 \pm 0.43
agnostic	4.40 \pm 0.63	4.29 \pm 0.74	n.a.
atheist	4.65 \pm 1.00	4.17 \pm 0.33	n.a.
spiritual	4.56 \pm 0.74	4.05 \pm 0.42	5.08 \pm 0.63
religion mean masc. score \pm SD			
catholic	4.80 \pm 0.94	4.89 \pm 0.91	4.73 \pm 0.97
protestant	4.96 \pm 0.63	5.02 \pm 0.80	4.93 \pm 0.59

agnostic	4.78 ± 1.00	5.20 ± 0.88	n.a.
atheist	5.73 ± 0.45	5.73 ± 0.55	n.a.
spiritual	5.14 ± 0.62	5.34 ± 0.59	4.94 ± 0.64
relationship mean femininity score ± SD			
single – not dating	4.62 ± 0.95	4.57 ± 0.96	4.66 ± 0.97
single – dating	4.84 ± 0.72	4.84 ± 0.90	4.85 ± 0.59
partnered – monogamous	5.02 ± 0.73	4.66 ± 0.69	5.27 ± 0.66
partnered – not monogamous	4.76 ± 0.70	4.41 ± 0.44	n.a.
relationship mean masculinity score ± SD			
single – not dating			
single – dating	4.76 ± 1.07	4.76 ± 1.15	4.76 ± 1.04
partnered – monogamous	4.82 ± 0.91	5.04 ± 0.75	4.66 ± 1.01
partnered – not monogamous	5.12 ± 0.80	5.19 ± 0.93	5.13 ± 0.72
	4.85 ± 0.78	5.03 ± 0.80	n.a.
sexual orientation mean fem. score ± SD			
heterosexual	4.89 ± 0.80	4.71 ± 0.82	5.02 ± 0.76
homosexual	4.40 ± 0.61	4.41 ± 0.61	n.a.
sexual orientation mean masc. score ± SD			
heterosexual	4.96 ± 0.93	5.08 ± 0.96	4.87 ± 0.91
homosexual	4.68 ± 0.60	4.68 ± 0.60	n.a.

Table 10. BSRI score and addictive behavior.

addictive behavior	total group	male	female
n (%)	116	54	62
no	51 (44%)	23 (43%)	28 (45%)
intermediate	41 (35%)	18 (33%)	23 (37%)
strong	24 (21%)	13 (24%)	11 (18%)
no mean femininity score \pm SD	4.94 \pm 0.81	4.73 \pm 0.85	5.11 \pm 0.75
intermediate	4.81 \pm 0.82	4.57 \pm 0.71	4.99 \pm 0.86
strong	4.69 \pm 0.69	4.58 \pm 0.82	4.81 \pm 0.51
no mean masculinity score \pm SD	4.97 \pm 0.96	5.17 \pm 1.04	4.80 \pm 0.88
intermediate	4.80 \pm 0.91	4.66 \pm 0.82	4.91 \pm 0.98
strong	5.12 \pm 0.79	5.24 \pm 0.73	4.95 \pm 0.85
overall sextype classification n(%)			
masculine (high masc.-low fem.)			
no	10 (43%)	7 (50%)	3 (33%)
intermediate	6 (26%)	3 (21%)	3 (33%)
strong	7 (30%)	4 (29%)	3 (33%)
feminine (high fem.-low masc.)			
no	5 (38%)	1 (20%)	4 (50%)
intermediate	7 (54%)	4 (80%)	3 (38%)
strong	1 (8%)	-	1 (12%)
androgynous (high-high)			
no	21 (49%)	9 (56%)	12 (44%)
intermediate	14 (32%)	3 (19%)	11 (41%)
strong	8 (19%)	4 (25%)	4 (15%)
undifferentiated (low-low)			
no	15 (40%)	6 (32%)	9 (50%)
intermediate	14 (38%)	8 (42%)	6 (33%)
strong	8 (22%)	5 (26%)	3 (17%)

For the whole study population as well as for separate analyses of male and female students, differences in the femininity and masculinity score observed among individuals with different levels of addictive tendencies were not statistically significant.

Analysis of a potential association between SCS and BSRI

The SCS score and the femininity and masculinity scores from the BSRI were subjected to a correlation analysis using the Spearman rank correlation test (due to the skewed distribution of the SCS scores). For the whole study population, no linear correlation could be detected between the SCS and either of the BSRI scores (not shown). However, among male students, the SCS positively correlated with the masculinity score ($r=0.293$, $p=0.031$), but not with femininity ($r=-0.45$, $p=0.745$, not significant). Among female students, the SCS did not correlate with either masculinity or femininity scores (Fig. 5).

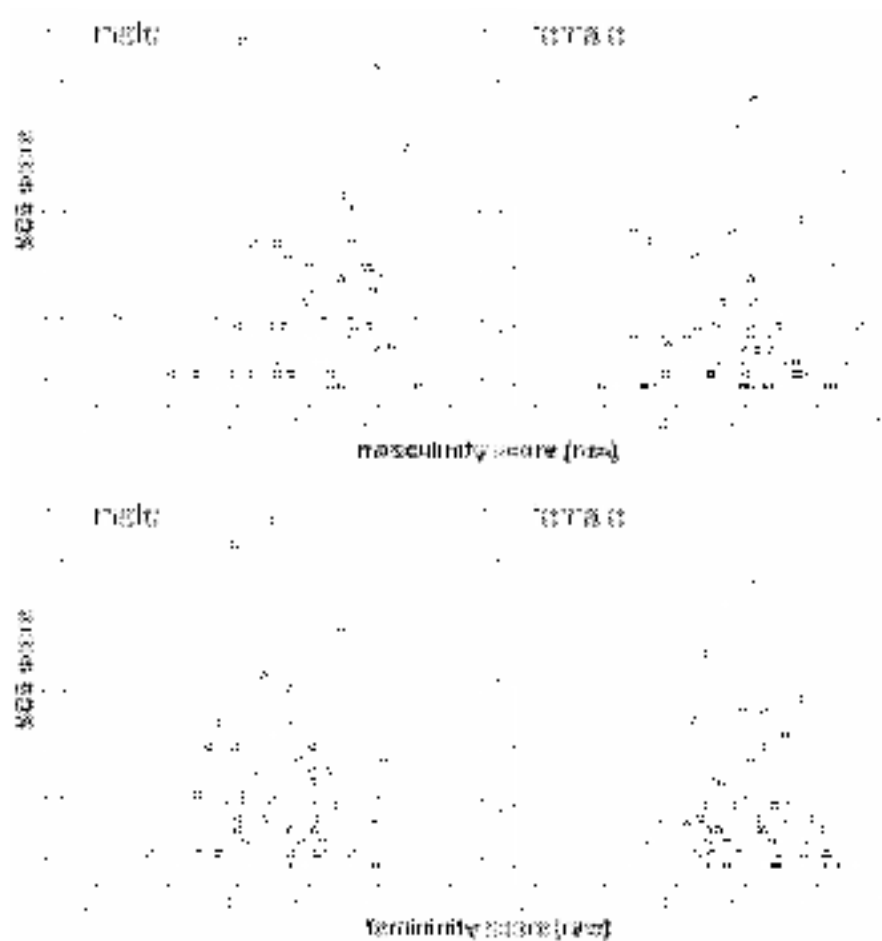


Fig. 5. Correlation between SCS and BSRI scores. When the correlation between SCS scores and masculinity or femininity scores from the BSRI were analyzed, only the masculinity scores in males were shown to correlate with the SCS ($r=0.293$, $p=0.031$, Spearman rank correlation; upper left plot). Masculinity in the females as well as femininity in either sex did not correlate.

The potential impact of the sextype according to the BSRI classification on the SCS score was analyzed (Table 11). A tendency towards higher SCS scores was noticed in masculine sex-typed students, that is male students who scored high in the masculine areas of the BSRI, and low on the feminine areas. As the sex is a strong confounding variable influencing the SCS score by itself (see Fig. 1), male and female students were

analyzed separately. Male students with a masculine sextype scored highest on the SCS. This difference was significant compared to undifferentiated ($p=0.035$) and feminine ($p=0.034$) sex-typed male students (Fig. 6). Among female students, the feminine sex-typed students had surprisingly the highest median SCS score; however, the differences compared to the other sex-types did not reach statistical significance (Fig. 6).

Table 11. SCS scores and BSRI sextype. All students and male or female students were categorized into sextypes according to the BSRI, and the median SCS with the range in parenthesis is given.

	total group	male	female
n (%)	116	54 (47%)	62 (53%)
median SCS (range)			
masculine (high masc.-low fem.)	1.50 (1.0-3.7)	1.85 (1.2-3.7)	1.30 (1.0-2.8)
feminine (high fem.-low masc.)	1.40 (1.0-2.3)	1.30 (1.1-1.7)	1.45 (1.0-2.3)
androgynous (high-high)	1.30 (1.0-3.4)	1.50 (1.0-3.0)	1.20 (1.0-3.4)
undifferentiated (low-low)	1.20 (1.0-3.9)	1.40 (1.0-3.0)	1.20 (1.0-3.2)

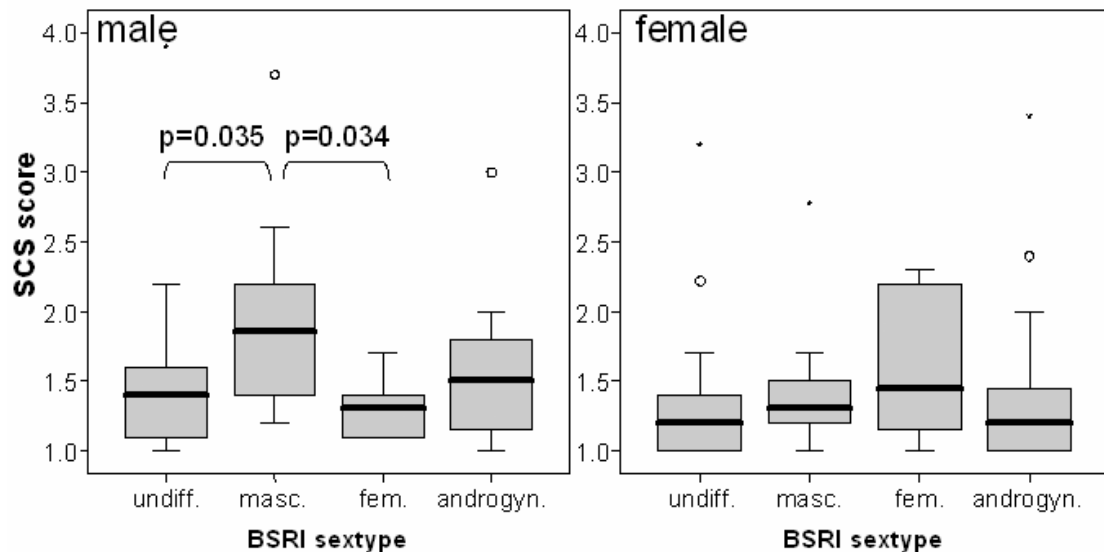


Fig. 6. SCS score and BSRI sextype. Students were analyzed for the SCS according to their sextype on the BSRI. Males with a masculine sextype show significant higher SCS scores than with an undifferentiated or feminine sextype; p values given in the figure. There were no significant differences in the female population.

The single items from the BSRI were correlated with the mean SCS score in male and female students. This analysis intended to identify self-assessments of students with relatively high or low sexual compulsivity. Interestingly, a variety of mainly masculine or neutral adjectives could be identified for male students that positively correlated with the SCS score (Table 12), but much fewer for female students. Instead, only in female students some (“neutral”) items were inversely correlated to the SCS score, indicating

that female students with high sexual compulsivity would not assess themselves as “truthful” and “loyal”.

Table 12. SCS score and single items from the BSRI. The single items from the BSRI were correlated with the mean SCS score in male and female students. Significant correlations are depicted; r, correlation coefficient, p, p-value. M, F, N indicates whether the item is regarded as masculine, feminine or neutral.

	male students	female students
<i>positively correlated with SCS score</i>	forceful (M5) – $r=.406$, $p=.002$ risk taker (M7) – $r=.294$, $p=.031$ dominant (M8) – $r=.304$, $p=.027$ aggressive (M10) – $r=.424$, $p=.002$ competitive (M18) – $r=.444$, $p = .001$ childlike (F18) – $r=.278$, $p=.044$ moody (N2) – $r=0.356$, $p=.009$ conceited (N8) – $r=0.276$, $p=.048$ unsystematic (N12) – $r=.451$, $p=.001$ theatrical (N14) – $r=.298$, $p=.030$ happy (N16) – $r=.342$, $p=.012$	aggressive (M10) – $r=.276$, $p=.031$ masculine (M17) – $r=.317$, $p=.015$ moody (N2) – $r=.256$, $p=.048$ conceited (N8) – $r=.283$, $p=.027$
<i>negatively correlated with SCS score</i>		truthful (N5) – $r=-.339$, $p=.007$ loyal (N15) – $r=-.313$, $p=.013$

Evaluation of SCS and BSRI in clients at a clinical sexologist's office

The instruments were also administered to small group of clients at a New York sexologist's office, who volunteered to participate in the survey. Seven clients (4 male, 3 female; median age 32, range 28-48) completed, who visited a clinical sexologist for various reasons and were professionally assessed as presenting with generalized anxiety disorder. However, three (all of them male) considered themselves as "sex addicts". The clients were significantly older than the students ($p < 0.05$ for the whole population as well as for male and females, respectively). Also, all clients (7/7) were Caucasian; a higher percentage considered themselves as spiritual (4/7, 57% vs. 12/110, 11% in the student population) and bisexual (2/7, 29%, vs. 3/116, 3% in the student population). No difference was observed for the clients compared to the student population with regard to relationship status, addictive behavior and current or history of psychiatric medication (detailed data not shown).

As presented in Table 13, the male clients had significantly higher scores on the SCS compared with the male students. The differences between female clients and students were not significant. Clients and students did not differ in their masculinity or femininity scores. However, one has to keep in mind that only a small number of patients was included in this analysis. The rationale for this analysis was to have a positive control population for the SCS instrument and was not meant to be used for a formal comparison between the clients and the original study population.

Table 13. Comparison between clients of a sexologist's office with the student study population. 7 clients (4 males, 3 females) who visited a sexologist's office voluntarily participated in the survey. The median SCS score (range in parenthesis) as well as the BSRI scores on femininity and masculinity (mean + SD) are given in comparison to the main study population of college students. The overall BSRI sextype (n, % in parenthesis) is also provided. N.s, not significant; n.a., not applicable.

	male participants			female participants		
	Clients	Students	p-value	Clients	Students	p-value
n	4	54	n.a.	3	62	n.a.
SCS median (range)	3.2 (2.8-3.9)	1.5 (1.0-3.9)	<0.001	1.3 (1.0-1.4)	1.2 (1.0-3.4)	n.s.
BSRI femininity mean + SD	5.3 (3.6-5.5)	4.7 (2.8-6.1)	n.s.	5.5 (4.7-5.6)	5.1 (2.3-6.6)	n.s.
BSRI masculinity mean + SD	4.3 (3.8-5.9)	5.1 (2.3-6.6)	n.s.	5.4 (4.6-5.5)	5.0 (3.0-6.6)	n.s.
sextype n(%)						
masculine	1 (25%)	14 (26%)	n.a.	1 (33%)	9 (15%)	n.a.
feminine	3 (75%)	5 (9%)		1 (33%)	8 (13%)	
androgynous	-	16 (30%)		1 (33%)	27 (43%)	
undifferentiated	-	19 (35%)		-	18 (29%)	

DISCUSSION

Sexually compulsive behavior is theoretically defined as an “insistent, repetitive, intrusive, and unwanted urge to perform specific acts often in ritualized or routine fashion” (Kalichman & Rompa, 1995, p. 587). Individuals who are prone to sexual compulsivity are driven to satisfy sexual needs by precise repetitive patterns of impulsive sexual behavior. Findings from Kalichman and Rompa’s 1995 study indicated that sexual compulsivity was associated with very few variations in sexual practices, but participants engaged in more frequent intercourse. Men were found to score higher on the scales than women. Reece et al. (2001) reported an internal consistency of .76 for men and .81 for women on a total of 594 sexually active college students. In this study, males scored significantly higher than female students as well. (See Table 14 for a comparison of reported mean scores across this study and other recent studies.)

Table 14. Comparison of SCS scores from this study with previous studies. The table illustrates the results of this survey with regard to mean SCS scores in male and female students in comparison to prior research which used the SCS in different samples. MSM, men who sleep with men; MSMW, men who sleep with men and women.

	study population	SCS score, mean + SD	
		males	females
this study	college students	1.62 + 0.63	1.41 + 0.54
Dodge et al. 2004	Heterosexual college students	1.64 + 0.40	1.33 + 0.32
Reece 2003	MSM Living with HIV	2.06 + 0.62	n.a.
Benotsch et al. 1999	MSM Living with HIV	1.87 + 0.66	n.a.
Reece et al. 2001	Individuals living with HIV	2.05 + 0.64	1.61 + 0.39
Kalichman & Rompa 2001	Individuals living with HIV	1.60 + 0.63	1.40 + 0.64
Benotsch et al. 2001	Individuals living with HIV	1.64 + 0.63	1.42 + 0.64
Kalichman & Rompa 1995	Low-income individuals	1.87 + 0.72	1.51 + 0.55
Parsons et al. 2001	Gay/bisexual male sex workers	1.92 + 0.69	n.a.
Reece & Dodge 2004a	MSM/MSMW campus cruisers	1.80 + 0.43	n.a.

Table 14 shows this study compared to the previous literature exploring the SCS in other populations. As with Dodge et al.'s 2004 study of heterosexual college students, this study shows that sexual compulsivity scores for male college students were within the lower range of scores and score for female college students were relatively lower in comparison to other studies. Note, also, as Dodge et al. (2004) observed, in this study, sexual compulsivity, as distinct from sexual addiction or sexual impulsivity, was

quantified and qualified by the SCS, in that it determined underlying compulsive personality traits that resulted in resistance to changes in sexual behaviors.

Gender refers to social conceptions of what it is to be masculine and what it is to be feminine (Franklin, 1988). Both are achieved statuses regulated by normative beliefs and expectations. There is no innate need for humans to develop masculine attributes, but it is forced upon males by culture, which may at times produce gender role stress and lead to unhealthy or dysfunctional coping behavior (Eisler and Blalock, 1991; Arrindell et al., 2003; Oliver and Hyde, 1993). On the other hand, Salas and Ketzenberger (2004) found that, although in same-sex friendships, women tended to express affection verbally, while men expressed friendship in shared activities, both genders were similar in their expressions of intimacy in opposite-sex relationships. In this study, only 15 percent of male subjects and no female subjects self-identified as homosexual, which is very atypical of a group of students as diverse as this study's subjects, but might be related to social discomfort with labelling themselves on a form rather than actual personal preferences (Feldman, 2006; Baumeister et al., 2001).

In Dodge et al. (2004), 325 male college students and 551 female college students were given the SCS. A significant difference was found between men and women, as in the current study as well as in the other major research using the SCS (see table 14), in terms of sexual compulsivity scores. Also, as age decreased, participants' mean scores on the SCS increased, ($n= 876$, $p<0.001$). As in this study, this research did not show significant differences in levels of sexual compulsivity with regard to the age or when groups were compared by ethnicity. Dodge et al. (2004) did not look at other addictive

behaviors, religion or sexual orientation, but unlike this study, it did take into account number of sexual partners and types of sexual behaviors.

One striking finding in analyzing factors influencing the SCS score in this study was that students reporting signs of addictive behavior scored significantly higher on the SCS. This is in line with a study by Zuckerman & Kuhlman (2000) among 3000 college students that involved examining the interaction between gender, personality, and risk-taking in six areas of risk- drinking, smoking, drugs, sexual behavior, driving habits and gambling. Women scored higher than men on scales assessing neuroticism and sociability, and men scored higher on impulsive sensation seeking and aggression-hostility. Men usually showed more risk-taking in the six areas of their study. Interestingly, this study shows a direct correlation between the self-assessment as a “risk taker” (as part of the BSRI) with the SCS score (compare to Table 11) as well as forceful, moody, competitive, dominant and aggressive (See Table 12) which in Zuckerman and Kuhlman (2000) relates to aggression-hostility.

Sexual compulsivity seems to be a relevant construct for describing elevated levels of sexual practices with multiple partners in this sample of college students. Zuckerman and Kuhlman’s (2000) study supported the construct validity in the results showing that individuals who reported higher frequencies of partner sex, solo sex, and public sex activities were more likely to have higher sexual compulsivity scores. Additionally, participants who reported having more than one sexual partner were more likely to have higher scores on the SCS than those who reported being involved in exclusive sexual relationships and those who were not sexually active. The study showed significant relationships between sexual compulsivity and gender and age. Findings in these

respects reflected those of Hoyle et al. (2000), wherein these authors also found high correlation between sexual compulsivity and high-risk sexual behaviors.

Differences in sexual compulsivity scores between men and women resemble broader gender differences found in sexuality research that suggest a stronger sexual desire in men. Women have reported less frequent masturbation, less accepting attitudes toward sexual encounters, and less consistency in orgasms than men in select samples (Hyde & DeLamater, 2000). These gender differences have been interpreted as biological as well as socio-cultural (Baumeister et al., 2001; Missildine et al., 2005).

It should be noted that a large number of students in this study had relatively equal scores in masculinity and femininity, making them either androgynous (high masculine, high feminine) or undifferentiated (low masculine, low feminine). Although the BSRI has been critically evaluated for use in the twenty-first century as previously discussed (Choi and Fuqua, 2003), it may be that some of the adjectives used to describe masculine traits or feminine sex traits may have changed. That is to say that though society may see stereotypical differences in male and female sex roles, the adjectives used to describe those sex roles may have changed since Bem (1974) last updated the BSRI. In fact, Oswald (2004) suggested that the increased androgyny she found was probably due to changing contemporary standards of acceptable feminine and masculine roles, and Cunningham and Russell (2004) found differences in gender were offset by sex-typing. As well, Pederson et al. (2002) found in a survey of 266 undergraduate students, there was little difference between genders in life plans to settle down with one mate and meantime, avoid one-night stands or short-term relationships. As far as whether the

BSRI scores correlate with levels or types of addictive tendencies, this study found no statistically significant correlations.

However, if the BSRI score results from this study are directly compared with the historical control population from 1978 (even with small subgroups in this study), the BSRI scores are very similar (see Table 15). Therefore, it appears reasonable to conclude that the reliability and power of the BSRI has not dramatically changed when applied to current study populations.

Table 15: Comparison of the BSRI scores on femininity and masculinity obtained from male participants in this study with the large 1978 Stanford study that established normal values on the BSRI. Mean and SD as well as numbers of individuals in the different subgroups according to race are given.

Females	1978 Stanford		This study	
	Femininity	Masculinity	Femininity	Masculinity
	<i>all participants (n=476)</i>		<i>all students (n=116)</i>	
mean + SD	5.05 + 0.53	4.79 + 0.66	5.01 + 0.76	4.87 + 0.90
	<i>Caucasian undergraduates (n=32)</i>		<i>Caucasian undergraduates (n=12)</i>	
mean + SD	5.00 + 0.68	4.82 + 0.85	5.06 + 0.79	4.89 + 0.72
	<i>African-American undergrad. (n=63)</i>		<i>African-American undergrad. (n=19)</i>	
mean + SD	5.11 + 0.63	5.04 + 0.86	5.04 + 0.86	5.11 + 0.92
	<i>Hispanic undergraduates (n=35)</i>		<i>Hispanic undergraduates (n=26)</i>	
mean + SD	4.91 + 0.78	4.50 + 1.10	4.98 + 0.79	4.77 + 0.97
Males	Femininity	Masculinity	Femininity	Masculinity
	<i>all participants (n=476)</i>		<i>all students (n= 54)</i>	
mean + SD	4.59 + 0.55	5.12 + 0.65	5.01 + 0.76	4.87 + 0.90
	<i>Caucasian undergraduates (n=32)</i>		<i>Caucasian undergraduates (n=12)</i>	
mean +SD	4.59 + 0.64	5.12 + 0.74	4.45+ 0.54	4.73 + 0.62
	<i>African-American undergrad.(n=63)</i>		<i>African-American undergrad. (n=16)</i>	
mean + SD	4.72 + 0.72	5.36 + 0.85	4.74 + 0.82	5.01 + 0.98
	<i>Hispanic undergraduates (n=35)</i>		<i>Hispanic undergraduates (n=21)</i>	
mean + SD	4.75 + 0.65	5.38 + 0.76	4.65 + 0.81	5.13 + 0.96

Possible Problems - Conceptual and Practical Consequences for this Study

Various terms, e.g. sex addiction or hypersexuality, and concepts of sexually driven behavior, almost always carry with them some moral implications projected onto the individual by the part of those treating him/her or by the media, or from within the individual in the form of sexual guilt and shame (Peele, 1990). In awareness of that, this study avoided the use of certain of these emotionally charged words during the introduction of the questionnaire and in the material itself in order to minimize any hesitation on the part of the participants to answer the questionnaire truthfully. (Please, see Appendix 1 for the introductory statement and material handed to the participants.) However, it cannot be fully excluded, although precautions have been made, that participants could feel a certain sense of guilt or shame with regards to any sexual behavior, and will exaggerate or minimize the severity of their behaviors if they feel that certain questions aim to pass some sort of moral judgment.

Because the measures are survey-based, differential self report items based on one's gender had to be critically examined. If gender norms are more powerful for certain populations, e.g. based on sexual orientation, ethnicity or religion, it may be that men and women are more inclined to answer survey questions according to these gender norms. Possible strong confounding variables may be uncovered by the additional characteristics sheet, but weak influential variables or other factors not included may not be recognized. This is a general problem for self-reported scales. For instance, reported sex differences do not necessarily indicate a biological basis for these differences (Missildine et al, 2005).

Since women sometimes do not know that they are sexually aroused, given the less salient nature of female as compared to male arousal, they may underreport on the SCS. It could well be possible that women are more aroused than they report, making the true difference between the sexes smaller than it would appear (Baumeister et al., 2001). This study compared its trends and obtained correlation coefficients to various other studies using the SCS to at least reveal if the systematic error was greater than for other investigations.

Similarly, men tend to overestimate based on the number of encounters rather than partners when referring to sexual partners and behaviors, and women tend to count each partner, making it possible for women to undercount (Brown & Sinclair, 1999; Wiederman, 1997; Missildine, et al., 2005). As this study does not assess those potentially critical items about sexual behavior (e.g. number of sexual partners, frequency of intercourse in a certain time-period, type of sexual activities, etc.), this was less of a concern for this survey. In fact, this study does not aim to correlate the score in the SCS on the actual real sexual behavior, as various studies examined this before (Kalichman & Rompa, 1995, 2001; Dodge et al., 2004).

With regard to the possible conclusions drawn from this study, one should be well aware that the study population (university students enrolled in general psychology) may not represent at all a true representative cross-section of a metropolitan population. This is especially possible with regard to age as well as personality and behavioral aspects. However, this study population was chosen for the following reasons: easy accessibility to a large number of participants, well controllable test conditions (quiet class-room) and

favorable population to address the above mentioned questions (motivated and focused students, above average intelligence, above average introspective individuals).

The major difficulty in any study of sexual compulsivity or impulsivity or hypersexuality is the whole question of whether any of these behaviors are actually dysfunctions or variants of normal functioning. Peele (1990, 2000, 2000a) argued that merely regarding sexual compulsivity as addiction turns what is often an entirely controllable and pleasurable activity into a disease—in effect, a disease in search of patients and a medical model to treat it. As Peele (1990), people used narcotics for centuries before anyone in the twentieth century decided narcotics use was dysfunctional, addictive, and illegal. Only for the latter is there any provable evidence. Similarly, what we consider aberrant sex or an abnormal preoccupation with sex is normal in some cultures (Peele, 1990; 2000).

Other studies (Heath, 1958; Berridge and Edwards, 1987) have also observed that binge drinkers, however heavily they drink, drink only occasionally and do not experience withdrawal symptoms, much as so-called drug chippers occasionally indulge without becoming dependent on the substance.

Peele's argument (2000) that researchers and therapists need to consider in examining sex as possibly addictive is that the values of the client and therapist might be the best determinants of whether any sexual activity is dysfunctional or not. If the sexual activity or any other compulsive activity consumes the subject's life to the exclusion of all other life activities, it is an addiction, but if the subject can, in effect, take it or leave it, it is not an addiction (Peele, 2000; Shaler, 1999).

Conclusion and Suggestions for Future Research

The main findings from this study were as follows:

- The SCS score, BSRI score and an additional panel of important characteristics could be reliably assessed in a large cohort of unbiased healthy university students.
- Male students scored higher on the SCS than female students (confirming previous literature), and both sexes differed with respect to key questions that would identify sexual compulsivity.
- SCS scores were associated with addictive tendencies (tobacco, alcohol, drug abuse), but not with ethnicity, religion, relationship status or sexual orientation.
- Female students scored higher in “femininity” on the BSRI than male, but not different in “masculinity”. No clear association between sex role traits or sex-types and other demographic characteristics were found.
- There was a direct link between sexual driven behavior (measured by SCS) and gender role traits (measured by BSRI) only for male participants: SCS and masculinity scores positively correlated, and masculine male sex-typed volunteers showed higher SCS scores. Femininity and SCS did not correlate in men.
- No correlation between sexual driven behavior and gender role traits were identified for female students.

- Male clients from a sexologist's office scored significantly higher in the SCS than the students from the original study population.

This study has some major implications for the conceptualization of sexual compulsivity, but at the same time raises important questions that need to be addressed by further research. The most relevant implication may be based on the fact that sexual driven behavior in men is associated with masculine gender role trait. This supports the concept, as outlined in the Introduction and Review of the Literature, to view sexual compulsivity as one aspect of masculine behavioral pattern – thus, to rather judge this as a facet of a sex role personality trait than to define it as a singular pathology like the term sex addiction would imply. However, what is unanswered is the warrant for a better definition of just what constitutes dysfunctional sexual behaviors—are they addictive, compulsive, destructive, pleasurable, and should we be treating them in the disease model or should we enable clients to strengthen their own resources. Of note, SCS score did correlate with addictive tendencies in this study of healthy volunteers, which indicates that increased sexual driven behavior, as assessed among clients from a sexologist's office, can result in a pathological condition.

Equally important is a better understanding of what constitutes dysfunctional sexual behaviors in women as opposed to men and vice versa. As masculinity impacts sexual driven behavior in men, no such association was seen in women. Whereas there seems to be a clear behavioral pattern in men (masculinity – sexual compulsivity), the (personality-related) factors influencing sexual compulsivity in women are to be determined. As the author of this thesis has accepted a new position at a different

University, he will conduct further research projects to unravel the more complex connection between personality-related and behavioral factors and sexual compulsivity in women.

However, given the consequences of indiscriminate sex, one obvious applicatory direction for further research would be sexual compulsivity among people living with HIV and AIDS and such high-risk groups as homosexual and bisexual people and controlled substance users. There is no question that preventing sexually transmitted infections of any kind is a goal justifying helping people at-risk, especially if it can be done non-judgementally. In this context, better theoretical models of sexual compulsivity would be another research direction, including better definitions of dysfunctional vs. functional sex.

Also, most of the literature examined by this study focused on late adolescents and young adults. Yet sexual behaviors, whether functional or dysfunctional, persist into very old age. We need more research into human sexuality at all ages.

From the standpoint of relationship counseling, we need to better understand differences, whether biological or cultural, in men's vs. women's perceptions of and desire for sex. The BSRI or a more modern equivalent needs to be updated to reflect current values, especially an increasing level of androgyny throughout society and women's increasing tendency to embrace traditional male values. It would probably be more useful to regard differences between genders in the context of sex-typing, rather than absolute gender differences based mainly or entirely on pure biology.

We also need more research on normal personality as it correlates with sexual risk-taking, as opposed to the present focus on disturbed personalities. We need to stop

relying on traditional assumptions of gender models and look at the social and behavioral consequences of increasingly flexible sex-role self-concepts. The rigid gender-role differentiation expressed by the BSRI is rapidly outliving its usefulness either as a predictor of behavior or an explanation of behavior. Androgyny should be considered as the order of the day for future research or at least more close examination of how and whether sex-role orientation changes over time. Taken together, this study adds another piece to the puzzle of understanding human sexuality and sexually driven behavior in 'healthy' volunteers, but much more remains to be learned in order to achieve a comprehensive view and to incorporate these findings into modern theories in human sexology.

APPENDIX 1: Instructions to Participants

Thank you for your patience and welcome. My name is Professor Michael DeMarco. I am a Psychology instructor at this school, but today I stand before you as an independent researcher. I am inviting you to participate in a study designed to gain a better understanding of the relationship between personality and sexual behavior. This independent research study has no connection to the CUNY. Although I have been given approval by the school to conduct this research, they will not have access to the information I collect from this project. If you volunteer to participate in this research, your contribution will be greatly appreciated. If you do not wish to participate in this study, you are free to refuse without penalty.

The information you provide will be kept strictly confidential and will not appear on any documents. Your identity will not be revealed. Your consent forms will be the only documents containing your name, and these will be kept separate from your questionnaires. Your participation will take approximately 20 minutes to complete a brief survey, and a questionnaire. You will be asked to circle how much you agree or disagree with each statement on a scale from 1-5. You will be asked to remain silent while selecting your responses. There are no right or wrong answers to these questions.

I want to thank those of you who are willing to participate. Please remain in your seats. We will begin momentarily.

Please raise your hand now if you do not want to be a part of this voluntary study, or feel free to return a blank document if you do not want to participate.

APPENDIX 2: Informed Consent

I hereby give consent to participate in an independent research study, approved by the City University of New York. I understand that the purpose of this study is to gain a better understanding of the relationship between personality factors and sexual behavior.

I understand that my participation involves filling out a brief survey and a questionnaire, which will take approximately 20 minutes. I understand that there are no foreseeable risks or benefits from my participation, because this is not a treatment study.

I understand that my participation is completely voluntary and I am free to refuse without penalty. I understand that all information will be kept strictly confidential, which means that my identity will not be revealed. I understand that information collected from this research will not appear in any of my medical, psychological or classification records, and will only be available to the researcher, Michael DeMarco, MS., and the research supervisor, Frank Tacke, MD, Ph.D. I understand that if I have any questions or comments about this research following my participation, I may write a request addressed to the Social Science department. I further understand that I am able to contact the researcher, Michael DeMarco, or the CUNY counseling department for help at no cost, in case I experience discomfort, stress or anxiety related to the participation in this study.

I am a voluntary participant of the above research and understand that information given is to be used in research and possibly will result in a published document. I understand that my identifying information will remain confidential and will not be revealed in any published documents.

My signature below indicates that I agree to the above conditions and therefore give consent to participate in this research:

Participant Signature: _____

Last Name (Print): _____ First Name (Print) _____ Date: _____

Researcher Signature: _____ Date: _____

APPENDIX 3: Participant Information

Age					
Race / ethnicity (circle one)					
African American	Caucasian	Hispanic	Asian American	<i>Other:</i>	
Religion (circle one)					
Catholic	Protestant	Muslim	Jewish	Hindu	Buddhist
Agnostic	Atheist	Spiritual	<i>Other:</i>		
Relationship status (circle one)					
Single- Not Dating	Single- Casually Dating	Partnered, Monogamous	Partnered, not Monogamous		
Gender and sexual orientation (circle one)					
man who has sex with women	man who has sex with men	man who has sex with men and women	woman who has sex with men	woman who has sex with women	woman who has sex with men and women
Alcohol and drug use (circle one)					
<i>I have now or have previously had what I would consider a drinking problem</i>				yes	no
<i>I drink approximately ___ drinks per week</i>	0	1-3	4-7	more than 7	
<i>I have tried to cut down on my drinking without success</i>				yes	no
<i>I have now or have previously had what I would consider a drug problem.</i>				yes	no
<i>I have tried drugs (not including cigarettes).</i>				yes	no
<i>I currently use drugs (not including cigarettes) approximately _____ times per month.</i>	0	1-3	more than 3		
<i>I have tried to cut down on my drug use without success.</i>				yes	no
<i>I smoke cigarettes.</i>				yes	no
<i>Have you ever taken medication prescribed to you for mental health/psychological reasons?</i>				yes	no

APPENDIX 4: Sexual Compulsivity Scale (SCS)

A number of statements that some people have used to describe themselves are given below. Read each statement and then circle the number to show how well you believe this statement describes you.

1- Not at all like me 2- Slightly like me 3- Mainly like me 4- Very much like me

	circle one			
1. My sexual appetite has gotten in the way of my relationships	1	2	3	4
2. My sexual thoughts and behaviours are causing problems in my life.	1	2	3	4
3. My desires to have sex have disrupted my daily life.	1	2	3	4
4. I sometimes fail to meet my commitments and responsibilities because of my sexual behaviour.	1	2	3	4
5. I sometimes get so horny I could lose control.	1	2	3	4
6. I find myself thinking about sex while at work.	1	2	3	4
7. I feel that sexual thoughts and feelings are stronger than I am.	1	2	3	4
8. I have to struggle to control my sexual thoughts and behaviour.	1	2	3	4
9. I think about sex more than I would like to.	1	2	3	4
10. It has been difficult for me to find sex partners who desire having sex as much as I want to.	1	2	3	4

APPENDIX 5: Bem Sex Role Inventory (BSRI)

This time, you will see a list of ways that people describe themselves. Using a scale from 1-7, you will rate how each description is 1- never or almost never true to 7- always or almost always true for yourself.

1- Never or almost never true 2- Usually not true 3- Sometimes but infrequently true
 4- Occasionally true 5- Often true 6- Usually true 7- Always or almost always true

Defend my own beliefs		Adaptable		Flatterable	
Affectionate		Dominant		Theatrical	
Conscientious		Tender		Self-Sufficient	
Independent		Conceited		Loyal	
Sympathetic		Willing to take a stand		Happy	
Moody		Love Children		Individualistic	
Assertive		Tactful		Soft-Spoken	
Sensitive to the needs of others		Aggressive		Unpredictable	
Reliable		Gentle		Masculine	
Strong Personality		Conventional		Gullible	
Understanding		Self-Reliant		Solemn	
Jealous		Yielding		Competitive	
Forceful		Helpful		Childlike	
Compassionate		Athletic		Likable	
Truthful		Cheerful		Ambitious	
Have leadership abilities		Unsystematic		Do not use harsh language	
Eager to soothe hurt feelings		Analytical		Sincere	
Secretive		Shy		Act as a leader	
Willing to take risks		Inefficient		Feminine	
Warm		Make decisions easily		Friendly	

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