

COGNITIVE ASPECTS OF SEXUAL FUNCTIONING: DIFFERENCES BETWEEN EAST
ASIANS AND EURO-CAUCASIANS

by

HEATHER LEA WOODWORTH MORTON

B.Sc., The University of British Columbia, 2009

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

(Psychology)

THE UNIVERSITY OF BRITISH COLUMBIA
(Vancouver)

August 2012

© Heather Lea Woodworth Morton, 2012

Abstract

The purpose of this study was to investigate male and female undergraduates' sexual beliefs, as well as their thoughts and emotions associated with sexual experiences. The study aimed to determine whether there are differences in these variables between East Asians and Euro-Caucasians, as well as the relationship between these variables and acculturation. In addition, the relationship between sexual beliefs, automatic thoughts, and emotions, and specific aspects of sexual functioning were also examined in both men and women. Euro Canadian (153) and East Asian (251) undergraduate students completed a questionnaire package measuring these variables. East Asian men and women had greater endorsement of almost all dysfunctional sexual beliefs assessed in the study. In addition, East Asian and Euro-Caucasian women differed in the frequency in which they experience negative automatic thoughts. East Asian men reported higher levels of fear compared to Euro-Caucasian men during sexual activity. Associations between difficulties in sexual functioning and dysfunctional sexual beliefs in East Asians, and difficulties in sexual functioning and automatic thoughts in both East Asians and Euro-Caucasians were also found. Together these results provide preliminary support for the hypothesis that differences in cognitive aspects of sexuality may underlie the differences in sexual functioning previously observed between these two groups.

Preface

Ethics approval was issued by the UBC Behavioral Research Ethics Board (Certificate #: H09-00690).

Table of Contents

Abstract.....	ii
Preface.....	iii
Table of Contents.....	iii
List of Tables.....	v
Introduction.....	1
Differences Between East Asians and Euro-Caucasians.....	1
Cognitive Aspects of Sexual Functioning.....	5
Current Study.....	14
Method.....	17
Participants.....	17
Measures.....	17
Procedure.....	23
Results.....	24
Ethnic Group Comparisons on Sexual Beliefs in Females.....	24
Sexual Beliefs and Acculturation in Females.....	24
Sexual Beliefs and Sexual Functioning in Females.....	25
Ethnic Group Comparisons on Automatic Thoughts in Females.....	26
Automatic Thoughts and Acculturation in Females.....	26
Automatic Thoughts and Sexual Functioning in Females.....	27
Ethnic Group Comparisons on Emotions in Females.....	28
Emotions and Acculturation in Females.....	28
Emotions and Sexual Functioning.....	29
Male Ethnic Group Comparisons on Sexual Beliefs.....	29
Sexual Beliefs and Acculturation in Males.....	30

Sexual Beliefs and Sexual Functioning in Males.....	30
Ethnic Group Comparisons on Automatic Thoughts in Males.....	31
Automatic Thoughts and Acculturation in Males.....	31
Automatic Thoughts and Sexual Functioning in Males.....	32
Ethnic Group Comparisons on Emotions in Males.....	33
Emotions and Acculturation in Men.....	34
Emotions and Sexual Functioning in Men.....	34
Discussion.....	35
Dysfunctional Sexual Beliefs.....	35
Automatic Thoughts.....	42
Emotions.....	46
Limitations and Future Research.....	48
Clinical Implications and Conclusion.....	49
References.....	71

List Tables

Table 1	Demographic Characteristics.....	51
Table 2	Female Dysfunctional Sexual Beliefs as a Function of Ethnicity.....	52
Table 3	Relationship Between Dysfunctional Sexual Beliefs and Acculturation in East Asian Women.....	53
Table 4	Relationship between Dysfunctional Sexual Beliefs and Sexual Functioning in East Asian Women.....	54
Table 5	Female Automatic Thoughts as a Function of Ethnicity.....	55
Table 6	Relationship Between Automatic Thoughts and Years in Canada in East Asian Women.....	56
Table 7	Relationship between Automatic Thoughts and Sexual Functioning in East Asian Women.....	57
Table 8	Relationship between Automatic Thoughts and Sexual Functioning in Caucasian Women.....	58
Table 9	Emotions in Women: Descriptive Statistics.....	59
Table 10	Relationship between Emotions and Years in Canada in East Asian Women.....	60
Table 11	Male Dysfunctional Sexual Beliefs as a Function of Ethnicity.....	61
Table 12	Relationship Between Sexual Beliefs and Years in Canada in East Asian Men.....	62
Table 13	Relationship between Dysfunctional Sexual Beliefs and Sexual Functioning in East Asian Men.....	63
Table 14	Automatic Thoughts in Men: Descriptive Statistics.....	64
Table 15	Relationship Between Automatic Thoughts and Years in Canada in East Asian Men.....	65
Table 16	Relationship between Automatic Thoughts and Sexual Functioning in East Asian Men.....	66

Table 17	Relationship between Automatic Thoughts and Sexual Functioning in Euro-Caucasian Men.....	67
Table 18	Male Emotions as a Function of Ethnicity.....	68
Table 19	Relationship between Emotions and Sexual Functioning in East Asian Men.....	69
Table 20	Relationship between Emotions and Sexual Functioning in Euro-Caucasian Men....	70

Introduction

Cognitive theory has aided in the understanding of cognitive processes that underlie a wide array of psychopathology and has contributed to the treatment of several disorders (Beck, 2005). Applying cognitive theory to sexual functioning, it follows that the way one thinks about sexuality may be related to sexual functioning and its problems. Beliefs which individuals hold about sexuality likely influence the way they interpret sexual experiences, and as a result may affect their vulnerability to sexual dysfunction. For instance, men who endorse beliefs which associate masculinity with perfect sexual performance, may interpret situations in which they are unable to maintain an erection in a catastrophic and negative way. This in turn may activate negative automatic thoughts, for instance focusing on anticipating failure, which could result in negative emotions such as worry and shame, ultimately reducing sexual arousal. The body of research supporting a cognitive model of sexual functioning has been increasing over recent years. There is however, still much that we do not know about this topic.

One particular area that needs to be explored is how these cognitive aspects vary across cultures. Beliefs are an integral part of culture, therefore it seems likely that individuals may differ from others in the beliefs they hold about sexuality depending on the culture to which they ascribe. As explained in the model above, these beliefs may influence the thoughts and emotions experienced during sexual activity and affect sexual arousal. Many differences in sexual functioning have been identified between East Asians and Euro-Caucasians. However, little research has investigated potential underlying cognitive factors. Previous studies examining differences in sexual functioning observed between Euro-Caucasians and East Asians will first be addressed, followed by a description of research conducted on cognitive aspects of sexual functioning.

Differences Between East Asians and Euro-Caucasians

Ethnicity has been shown to influence sexual functioning. For instance, compared to Caucasian women, African American women have reported a higher frequency of sexual intercourse, Hispanic women have reported lower levels of physical pleasure and arousal, Chinese women have reported more pain, less sexual desire, and less arousal, and Japanese women reported less sexual desire (Avis et al., 2005). There has been a strong and growing focus in the literature on differences between East Asians and Euro-Caucasians. This interest likely began as result of increased immigration of East Asians into North America. In 2006, 11% of the population of Canada identified as being East Asian, the largest non-Caucasian group in Canada (Statistics Canada, 2010). The term “East Asian” is broad and includes several different cultural groups, which share many characteristics such as collectivist goals, primacy of family, and emphasis on propriety and social codes (Okazaki, 2002). There also appears to be similarity in aspects of sexuality, for instance sexual restraint and modesty are common, and sexual activity outside of marriage is deemed especially inappropriate by most Asian cultures (Okazaki, 2002). Differences between East Asians and Caucasians have been frequently reported in the literature.

East Asians have been shown to be more conservative in their sexual experiences than non East Asians. For instance, Meston, Trapnell, and Gorzalka (1996) found that East Asian students at a Canadian university were more conservative than non-East Asian students on all measures of interpersonal sexual behavior they examined including petting, oral sex and intercourse. East Asian students were also more conservative on sociosexual restrictiveness including, lifetime number of partners, number of partners in the past year, predicted number of sexual partners, and number of one night stands (Meston, Trapnell & Gorzalka, 1996, 1998). In another study a significantly higher number of Euro-Canadian women reported experiencing vaginal intercourse compared with the East Asian group (Brotto, Chik, Ryder, Gorzalka & Seal, 2005). Similar results have also been found in an American university (Meston & Ahrold,

2008). East Asian students reported more conservative sexual behaviors compared to Hispanic and European students (Meston & Ahrold, 2008). East Asian participants had fewer sexual partners, and were significantly less likely to report having one-time sexual encounters (Meston & Ahrold, 2008). In addition, both East Asian men and women reported significantly older ages of first caress and first sexual activity than Hispanic or Caucasian individuals (Meston & Ahrold, 2008). As well East Asian participants were significantly less likely to report having had experience in petting, oral sex, or intercourse (Meston & Ahrold, 2008).

These findings originate from studies in which the division of participants between East Asian and non-East Asian groups was based solely on self declared ethnicity. This dichotomous approach is limited for a number of reasons including the fact that self declared ethnicity does not mean that these individuals necessarily subscribe to the culture of that ethnicity.

Fortunately, the effect of acculturation on sexual behavior has also been examined. Acculturation is the process by which an individual who belongs to an ethnic minority group assimilates aspects of the dominant culture's values, attitudes, and behaviors in the their self identity (Ryder, Alden, & Paulhus, 2000). Therefore examining acculturation is important in gaining an understanding of the influence of culture on sexuality. East Asian women in Canada with more mainstream acculturation have been shown to have significantly more sexual experiences (Brotto et al., 2005). In an American sample, heritage acculturation significantly predicted a lack of reported experience in masturbation and oral sex in East Asian women (Meston & Ahrold, 2008). Mainstream acculturation significantly predicted a younger age of first caress, while heritage acculturation predicted a significantly older age of first caress. Heritage acculturation significantly predicted older age at first sexual activity in East Asian men and women (Meston & Ahrold, 2008).

Differences between East Asians and non-East Asians have also been observed in sexual functioning. For example, Caucasian men and women have reported significantly greater sexual

desire than East Asian women (Brotto et al., 2005; Brotto, Woo & Gorzalka, 2011; Woo, Brotto, & Gorzalka, 2010; 2011). Euro-Canadians have also been shown to have higher sexual frequency, greater pleasure with orgasm, and to be more willing to engage in sex than East Asians (Brotto et al., 2005). In another study conducted on Canadian undergraduates, East Asians reported more sexual complaints (sexual avoidance, dissatisfaction, and non sexuality) (Woo & Brotto, 2008). As well East Asian women reported more symptoms of vaginismus (involuntary tightening of the vagina during intercourse), and anorgasmia (persistent or recurrent delay in, or absence of orgasm following normal sexual excitement) (Woo & Brotto, 2008). Differences in sexual functioning have also been found in samples of older women and men. Among American pre-menopausal middle-aged women, Chinese and Japanese groups reported lower sexual desire and arousal (Caine et al, 2003). In a study conducted among 40 to 80 year olds across 29 countries, in the majority of cases the reported prevalence of sexual problems was higher in East and Southeast Asia than in other regions of the world (Laumann et al., 2005). In East and South East Asia the prevalence of erection difficulties in men and lubrication difficulties in women was approximately double that of other regions (Laumann et al., 2005).

Acculturation also appears to play a role in the differences between Asians and non-Asians on aspects of sexual functioning. For instance, less identification with Western culture among the Asian Canadians has been found to be predictive of more sexual complaints overall, more sexual non-communication, more sexual avoidance, and more non-sensuality (Woo & Brotto, 2008). More assimilation to Western culture however has been shown to be associated with fewer complaints of erectile problems (Woo & Brotto, 2008). In addition living in Canada for more years significantly predicts lower levels of sexual arousal-evoked anxiety in Asian women (Brotto et al., 2005). More Westernized East Asian men and women have also been shown to report greater sexual desire (Brotto et al., 2011; Woo et al., 2010; 2011).

There has been less research conducted on the cognitive variables that may underlie these differences in sexual functioning and behavior. Chinese and Japanese women have been shown to report a lower importance of sex in their lives than other cultural groups in America (Caine et al, 2003). East Asians have also been found to have more conservative sexual attitudes (Meston et al., 1998). For instance East Asian men have been found to be more conservative in attitudes towards homosexuality and casual sex than Euro-Americans (Ahrold & Meston, 2008).

Acculturation has been shown to be associated with conservative attitudes; for instance, longer residency in Canada was related to less conservative beliefs related to homosexuality, oral sex, gender roles, masturbation, and premarital sex in East Asian students (Meston et al., 1998). Heritage acculturation has been shown to significantly predict negative attitudes towards casual sex and gender role traditionality in East Asian men and women (Ahrold & Meston, 2008). Whereas mainstream acculturation has been shown to be associated with more liberal sexual attitudes (Ahrold & Meston, 2008; Brotto et al., 2005).

Sex guilt is another area in which has been investigated in East Asians and Euro Caucasians. Sex guilt is defined as “a generalized expectancy for self-mediated punishment for violating or for anticipating violating standards of proper sexual conduct” (Mosher & Cross, 1971). Sex guilt has also been shown to be higher in East Asians (Abramson & Imai-Marquez, 1982; Brotto et al., 2011; Woo et al., 2010; 2011). As well sex guilt appears to be related to acculturation, as East Asian men and women who were more westernized reported less sex guilt (Brotto et al, 2011; Woo et al., 2010; 2011). Few studies have examined the possibility of cognitive factors contributing to the differences in sexual functioning in East Asians compared to Caucasians. However, sex guilt and sexual conservatism have both been shown to mediate the ethnic group differences in sexual desire (Brott et al., 2011; Woo et al., 2010; 2011). There is a need for further investigation of cognitive aspects of sexuality which may potentially underlie differences in sexual functioning between East Asians and Euro-Caucasians.

Cognitive Aspects of Sexual Functioning

Beliefs which individuals have about sex that may play a role in sexual dysfunction have been examined in a small number of studies. Nobre and Pinto-Gouveia (2006a) examined differences in dysfunctional sexual beliefs, beliefs about sexuality that are thought to be closely related to the development of sexual dysfunctions, held by those with and without sexual dysfunction. Age related beliefs, body image beliefs, and overall dysfunctional beliefs were found to be higher among women with a sexual dysfunction than sexually functional women. This study was limited however by the inclusion of individuals with a variety of sexual dysfunctions within a single clinical group.

Some studies have investigated sexual beliefs associated with specific sexual dysfunctions in women. Nobre & Pinto-Gouveia, (2008b) examined the presence of these beliefs within specific sexual beliefs in women. Participants with hypoactive sexual desire disorder were found to have a higher endorsement of age related beliefs, and beliefs pertaining to sexual desire as a sin (Nobre & Pinto-Gouveia, 2008b). Women with orgasmic disorder reported higher levels of body image beliefs, and women with subjective arousal disorder had higher endorsement of beliefs relating to sexual desire as a sin and sexual conservatism. Lubrication difficulties were found to be related to the belief of sexual desire as a sin, and sexual conservatism.

The relationship between sexual beliefs and vaginismus has also been examined. Nobre & Pinto-Gouveia, 2008b found that women with vaginismus had higher scores on age related beliefs. Individuals with this disorder have also been shown to hold relatively more conservative beliefs and fewer liberal beliefs (Borg, de Jong, & Schultz, 2011). There is some support that these conservative beliefs may contribute to the development of vaginismus. Fifty three percent of women who had or previously had vaginismus agreed that having an upbringing that condemned sex attributed to this belief the development of vaginismus (Ward & Ogden, 1994). The impact of these results is limited however due to the descriptive nature of the study.

Research on the sexual beliefs of men has been more limited. Nobre and Pinto-Gouveia (2006a) were unable to find any differences between men with sexual dysfunctions and those without when looking at all male sexual dysfunction within a single group. In an earlier study looking solely at erectile dysfunction, men with erectile dysfunction were more likely to endorse beliefs encompassing “machoism” (man’s capacity for always being ready for sex and able to perform), demands for women’s sexual satisfaction, and catastrophization of public consequences of sexual failure compared to a control group of men (Nobre & Pinto-Gouveia, 2000). Beliefs relating to restricted attitudes toward sexual activity have been shown to be a significant predictor of sexual desire in men (Carvalho & Nobre, 2011a; Carvalho & Nobre, 2011b). There is a need for further studies examining the role of sexual beliefs in specific male sexual dysfunctions.

Another area of beliefs that has been examined, are beliefs which individuals have about themselves in regards to sexuality. Women with low sexual desire have been shown to identify with a life long feeling of being “substandard” as a main factor interrupting their sexual response cycle (Basson, 2001). Andersen and Cyranowski (1994) studied sexual self-schemas, cognitive generalization about sexual aspects of oneself, in American university students. Women with a positive sexual schema described themselves as better able to become sexually aroused, evaluated various sexual practices more positively, reported being more willing to engage in uncommitted sexual relationships, and rated themselves as more sexual compared to women with a negative sexual schema (Andersen & Cyranowski, 1994). Both men and women with negative sexual schemas were shown to report a lower frequency and diversity of sexual activity, fewer sexual partners, and fewer brief sexual encounters during a lifetime (Anderson & Cyranowski 1994; Andersen et al., 1999). As well women with negative sexual self schemas had lower affective involvement with sexual partners, higher avoidance of emotional intimacy and higher anxiety levels about being unloved or abandoned (Cyranowski & Andersen, 1998). Cognitive

schemas, composed of beliefs which individuals have about themselves in sexual situations, have also been evaluated in a study by Nobre and Pinto-Gouveia (2009a). Overall those who had a sexual dysfunction reported more negative schemas in response to vignettes about common negative sexual events. The greatest difference between the two groups was the increased activation of personal incompetence schemas in those with a sexual dysfunction. Those with a sexual dysfunction also activated significantly more difference / loneliness and self deprecation schemas compared to controls. A similar study was also conducted looking at these same cognitive schemas within specific female dysfunctions (Nobre & Pinto-Gouveia, 2008b). Women with hypoactive sexual desire, orgasmic disorder, and vaginismus activated significantly more incompetence, and difference/ loneliness schemas. As well women with hypoactive sexual desire activated more helpless schemas, and women with vaginismus presented higher scores on self depreciation and undesirability/ rejection schemas.

The contribution of thoughts that individuals experience during sexual activity, to sexual dysfunction has only begun to be investigated in recent years. Nobre and Pinto Gouveia (2008c) examined differences in automatic thoughts in those with and without sexual dysfunction. Women with sexual dysfunction had significantly higher scores on sexual abuse thoughts, failure and disengagement thoughts, and lack of erotic thoughts (Nobre & Pinto Gouveia, 2008c).

Differences have also been found between the thoughts associated with specific sexual disorders in women. Women, with hypoactive sexual desire disorder have been shown to have a higher frequency of failure and disengagement thoughts, and lack of erotic thoughts than their control counterparts, and were more likely to endorse sexual abuse thoughts compared to women with other sexual dysfunctions (Nobre & Pinto-Gouveia, 2008b). Carvalho and Nobre, (2010a) found failure and disengagement thoughts were the only significant predictor of female sexual desire when entered into a regression analysis with other main predictors identified in the literature (psychopathology, sexual beliefs, negative automatic thoughts, emotions, dyadic

adjustment, medical problems, and menopause). Specifically this result suggests that thoughts relating to the inability to feel sexual arousal and pleasure, and to one's self as a nonsexual motivated being, inhibits sexual interest in women. This finding supports the idea that thoughts play a central role in sexual desire.

Women with vaginismus, have been shown to have a higher frequency of failure and disengagement thoughts, and a lack of erotic thoughts compared to healthy controls (Nobre & Pinto-Gouveia, 2008b). Higher levels of catastrophic thoughts associated with pain have also been shown to be greater in women with vaginismus compared to other women (Borg, Peters, Schultz, & Jong, 2012). These findings suggest thoughts may play a role in the development or maintenance of vaginismus, although more research in this area is needed.

Automatic thoughts have also been shown to play a role in orgasmic dysfunction. Women with orgasmic disorder were shown to have a higher frequency of failure and disengagement thoughts and fewer erotic thoughts compared to controls (Nobre & Pinto Gouveia, 2008b). Cuntim and Nobre (2011) found that sexual abuse thoughts, failure and disengagement thoughts, partner's lack of affection, sexual passivity and control, and lack of erotic thoughts were all significantly higher in women with orgasmic difficulties compared to those without. These findings support the idea that orgasmic dysfunction is associated with negative automatic thoughts.

Differences in the thoughts experienced during sexual activity by those with and without a sexual dysfunction have also been examined in men. Nobre and Pinto-Gouveia (2008c) found men with a sexual dysfunction presented significantly more failure and anticipation thoughts, erection concern thoughts, age and body related thoughts and lack of erotic thoughts compared to those without dysfunction (Nobre & Pinto-Gouveia, 2008c). In men with erectile dysfunction, lower scores on erotic thoughts, and significantly higher scores on performance demanding thoughts, negative thoughts, and failure anticipation were found compared to men in a control

group (Nobre & Pinto-Gouveia, 2000). Thoughts related to concerns about erection, and lack of erotic thoughts, have been shown to be significant predictors of sexual desire (Carvalho & Nobre, 2011a; Carvalho & Nobre, 2011b). When these predictors were included in a regression analysis with other factors thought to contribute to sexual dysfunction such as age, psychological symptoms, and medical problems, lack of erotic thoughts was the only significant predictor of sexual desire. (Carvalho & Nobre, 2011a). Automatic thoughts appear to play an important role in male sexual functioning.

Nelson and Purdon (2011) compared the thoughts men and women experience during sexual activity in a predominately Caucasian sample. Women were more likely to report body image concerns and external consequences of sexual activity, while men were more likely to report performance related concerns. Men and women equally reported thoughts about emotional consequences of the sexual activity. Despite the difference in content of the non-erotic thoughts reported by men and women, more frequent non-erotic thoughts were associated with more sexual problems in both groups. Automatic thoughts appear to play an important role in sexual dysfunction in both men and women.

Some research has been conducted on the role of emotions in sexual dysfunction. Women with and without sexual dysfunction have been shown to differ in terms of emotional responses during sexual activity (Nobre & Pinto-Gouveia, 2006c). Women with sexual dysfunction showed higher scores on sadness, disillusion, guilt, and anger, and lower scores on pleasure and satisfaction compared to controls. In a study conducted on a non-clinical sample at an American university, those with higher levels of guilt about having sexual fantasies during intercourse reported fantasizing significantly less often, and reported higher levels of sexual dissatisfaction with their most recent sexual relationship, and had more sexual problems than those with lower levels of guilt (Cado & Leitenberg, 1990). Only the guilt and sexual adjustment scales however had established psychometric properties; the scales that examined sexual fantasy and beliefs had

no support for reliability or validity, limiting the value of these findings. In a study looking specifically at how vaginismus affects women's feelings about themselves, feeling angry was ranked the highest followed by feeling helpless and then feeling guilty (Ward & Ogden, 1994). The interpretation of these results is also limited however due to the lack of established psychometric properties for the measures employed in the study and due to the study's descriptive nature.

Studies have also been conducted comparing the emotions experienced between men with and without sexual dysfunction. Men with sexual dysfunctions have been shown to report more sadness, disillusion, and fear, and significantly lower scores on pleasure and satisfaction (Nobre & Pinto-Gouveia, 2006c). In a study looking specifically at men with erectile dysfunction, the men tended to react in a more emotionally negative way, than men without sexual dysfunction, towards feelings related to performance demands and failure and anticipation thoughts (Nobre & Pinto-Gouveia, 2000). Emotions also appear to play a role in sexual desire; shame and sadness have been shown to be significant predictors of this aspect of sexual functioning (Carvalho & Nobre, 2011a).

One study has been conducted which investigated the differences in emotions experienced in response to automatic thoughts during sexual activity in men and women (Carvalho & Nobre, 2011c). This study reported that women presented more emotions of hurt and men presented more fear and shame. Emotions were also shown to interfere with sexual desire in different ways in men and women. Men with low desire had higher levels of shame compared to men with high desire, and women with low desire had higher levels of hurt compared to women with high desire.

The relationships between different cognitive variables have also been examined in an attempt to gain a greater understanding of how these variables interact and contribute to sexual dysfunction. The relationship between thoughts, emotions, and sexual arousal was examined by

Nobre and Pinto-Gouveia (2008a). In men with and without sexual dysfunction, there were significant positive correlations between feelings of sadness, guilt, shame and most of the negative automatic thought dimensions examined, and significant negative correlations between pleasure and satisfaction and most of the negative automatic thought dimensions examined. In women emotional responses of disillusion, and guilt were significantly positively correlated with most of the negative automatic thought dimensions and pleasure significantly negatively correlated with most of the negative automatic thought dimensions. All automatic thought dimensions presented significant negative correlations with the sexual response index. Relationships were also seen between emotions and sexual response. Significant negative correlations were seen between emotions of sadness, disillusion, guilt, and worry, and sexual responses in both men and women, and significant positive correlations were displayed between emotions of pleasure and satisfaction and sexual response. Men and women with sexual dysfunction reported significantly less arousal in response to erotic thought dimensions compared to those without sexual problems. Women with sexual dysfunction displayed a lower occurrence of emotional responses of pleasure and a higher frequency of worry, sadness, disillusion, and fear when experiencing erotic thoughts during sexual activity compared to those without a sexual dysfunction. Men with a sexual dysfunction responded to erotic thoughts with less pleasure and satisfaction and more worry, sadness, and disillusion. This study provided support for the idea that automatic thoughts, emotions, and sexual arousal are all associated with one another. The purely correlational nature of these findings, however prevent the generation of causal statements. In addition this study showed that individuals with sexual dysfunction experience erotic thoughts with more negative emotionality and less sexual arousal than individuals without sexual dysfunction.

Most recently, studies have examined interactions between specific cognitive variables in order to provide support for a particular cognitive model for forms of sexual dysfunction. Nobre

(2009) investigated an integrative model for the influence of cognitive-emotional variables on women's sexual desire using path analysis. Women with conservative sexual beliefs (those that promote coitus and procreation primacy) were more likely to have low sexual desire, as shown by the significant direct effect of sexual conservatism on female sexual desire. Aside from this direct effect, those with sexually conservative beliefs presented difficulties in processing sexual/erotic stimuli during sexual activity, as shown by a low frequency of erotic thoughts. The lack of erotic thoughts, in turn was shown to exert a negative effect on sexual desire, as supported by a significant direct effect on sexual desire from lack of erotic thoughts. In addition it was proposed that activities that were not congruent with conservative beliefs, triggered sexual abuse thoughts, and emotional responses of guilt or anger. This finding was supported by moderate betas between conservative beliefs these other variables. These thoughts and emotions were shown to facilitate the focus on failure and disengagement thoughts, supported by the significant direct effects of guilt, anger, and sexual abuse thoughts on failure and disengagement thoughts. These thoughts reduced sexual desire and erotic thoughts, supported by the significant direct effects of failure and disengagement thoughts on sexual desire and lack of erotic thoughts. In a further study Carvalho and Nobre (2010b) found that age, failure/disengagement thoughts, and lack of erotic thoughts during sexual activity showed a significant direct effect on reduced sexual desire in women. An indirect effect was found for medical problems reducing sexual desire through the presence of failure and disengagement thoughts. Findings from these studies must be interpreted with caution however as these studies were of correlational design and therefore cannot determine causality.

An integrative model of the influence of cognitive emotional variables in men who have erectile dysfunction has also been evaluated (Nobre, 2010). The model proposed that "macho" beliefs (males' sexual infallibility) work as predisposing factors, stipulating the conditional rules for the activation of incompetence schemas in sexually unsuccessful situations which, once

activated guide automatic thoughts concerning erection, lack of erotic thoughts, and sadness, which impair the processing of erotic stimuli, and interfere in a negative way with sexual response. Significant direct effects were only found for erection concern thoughts and for lack of erotic thoughts on erectile function. Therefore the automatic thought component of the proposed model was supported by findings from this study, however studies of experimental design are needed before causality between any of the variables can be established.

Despite the great contribution previous studies have made in evaluating the role of cognitive variables in sexual dysfunction, there are several limitations which reduce the value of these findings. Aside from sexual dysfunction, other psychopathology has not been controlled for in any of the studies mentioned previously. The rates of psychological disorders are higher among those with sexual dysfunctions than in the general population (van Lankveld & Grotjohann, 2000). Comorbidity is particularly high with mood and anxiety disorders (van Lankveld & Grotjohann, 2000; Laurent & Simons, 2009). Therefore the differences in cognitive aspects of sexuality found in these studies may be related to other psychological disorders rather than being specifically associated with sexual dysfunction. Another concern relates to the establishment of psychometric properties of measures used in many of the previously mentioned studies. The samples used in several of the above mentioned studies were also used to validate the measure that was used in the study (Nobre 2009, 2010; Nobre & Pinto-Gouveia 2006b, 2008a, 2008b, 2008c; 2009a, 2009b). Perhaps the biggest limitation reducing the generalizability of these findings is the fact that the vast majority of research in this area has been restricted to samples within Portugal (Nobre 2009, 2010; Nobre & Pinto-Gouveia 2006a, 2006b, 2008a, 2008b, 2008c, 2009a, 2009b). The sexual beliefs, thoughts, and emotions held and experienced by individuals are likely influenced by culture and therefore may differ between cultures, outside of Portugal.

Current Study

The research conducted thus far has provided support for a cognitive model of sexual functioning. There are several limitations however, which reduce the generalizability of these findings. Of particular concern is the fact that the majority of the research in this area has been restricted to a single cultural group. There has been minimal research on how cognitive variables differ across cultures. East Asians and Euro-Caucasians have been found to differ in many aspects of sexuality including, differences in sexual behavior, and sexual functioning. There has been minimal research however examining the cognitive variables that may underlie these differences.

When one compares major influences regarding sexuality in both East Asian and Euro Caucasian culture, it seems likely that East Asians will be more likely to ascribe to the sexual beliefs that Nobre and Pinto-Gouveia (2006a) identified as problematic. Confucianism, one of the three major Chinese philosophical traditions, has had the greatest impact on Chinese culture. From the Sung Dynasty onwards, Confucianism became a sexually suppressive doctrine as construed by the Neo-Confucians (Ng & Lau, 1990). Under this doctrine, Chinese built up suppressive sexual attitudes and behaviors including the restriction of sexual behavior outside wedlock and it being viewed as having a solely procreative role. This philosophy has also influenced other East Asian cultures including those of Japan and Korea (Frenier & Mancini, 1996). Alternatively, contemporary North American culture has embraced more liberal attitudes towards sexuality. For instance, Masters and Johnson developed sex therapy based on the giving and receiving of pleasure, embracing the notion of sexual freedom (Masters & Johnson, 1970). Therefore it seems likely that compared to Euro-Caucasians, East Asians may ascribe more strongly to dysfunctional sexual beliefs, which incorporate more conservative views of sexuality. Following cognitive theory, these dysfunctional beliefs would lead to more frequent negative automatic thoughts during sexual activity, which in turn may produce more negative emotions, and therefore reduce aspects of sexual functioning such as sexual desire and arousal.

The purpose of this study is to investigate male and female undergraduates' sexual beliefs and their thoughts and corresponding emotions that occur during sexual activity. The study aims to determine whether there are differences in these variables between East Asians and Euro-Caucasians, as well as the relationship between these variables and acculturation. In addition the relationship between sexual beliefs, automatic thoughts, and the emotions that accompany them, and specific aspects of sexual functioning will be examined in both men and women. We hypothesized that our East Asian sample would ascribe more strongly to dysfunctional sexual beliefs, report a higher frequency of negative automatic thoughts, and be more likely to experience negative emotions in response to these thoughts than our Euro-Caucasian sample. We also hypothesized that these factors would be associated with greater levels of heritage acculturation and lower levels of mainstream acculturation within the East Asian group. In addition, we hypothesized that these cognitive factors and the negative emotions that accompany them would be associated with more problematic sexual functioning in both groups.

The current study will provide further understanding of the influence of culture on sexuality. Evaluating differences in cognitive aspects of sexuality between East Asian and Euro-Caucasian individuals, and their relationship with aspects of sexual functioning, may help explain the greater difficulties in sexual functioning which have frequently been observed among East Asians. Understanding differences in beliefs, automatic thoughts, and the emotions that accompany them, between these two groups may provide insight into how therapy for sexual dysfunction can be adapted to best serve each cultural group.

Method

Participants

A total of 456 undergraduate volunteers from a large Canadian university participated in the study (236 males and 220 females). Participation was restricted to individuals who identified as primarily heterosexual due to the heterosexual focus of several of the measures used in the study. One hundred and fifty three participants self identified as Euro-Caucasian and 251 participants self identified as East Asian, the remaining 52 participants were excluded from all analyses.

Demographic data are presented in Table 1. The female Euro-Caucasian participants were significantly older than the East Asian participants ($t(98) = 2.71, p = .008$). There was no significant difference between the education level, or the proportion of women who reported being in a relationship, or the length of the current relationship between the two groups.

The male Euro-Caucasian participants were also significantly older than the East Asian participants ($t(88) = 2.88, p = .005$). In addition, a significantly greater proportion of Caucasian males were in a relationship than East Asian males ($\chi^2(1, n = 203) = 4.89, p = .027$). There were no significant differences between the education level of the two groups.

All participants were recruited through the University's Department of Psychology undergraduate human subject pool and received one course credit towards an undergraduate psychology course for their participation in the study. Data were collected between September 2009-January 2012.

Measures

Demographic information. This is an 8-item measure assessing basic demographic information designed by the researcher.

Sexual Dysfunctional Beliefs Questionnaire (SDBQ). The SDBQ is a 40-item questionnaire assessing beliefs presented in the clinical literature as predisposing factors to male

and female sexual dysfunctions (Nobre et al, 2003). There are male and female versions assessing beliefs specific to gender. Participants are asked to identify the degree to which they agree with each of the 40 statements on a Likert scale from 1 (completely disagree) to 5 (completely agree). The reliability and validity of the measures have been established through psychometric studies (Nobre et al, 2003). Statistically significant correlations were found for both the male ($r = .73$) and female ($r = .80$) measures between two consecutive administrations of the questionnaire over a 4-week interval. Internal consistency was demonstrated with Cronbach's alpha of .93 for males and .81 for females. Convergent validity has been shown by correlations with measures that assess similar constructs. The SDBQ correlated with the total score of the Dysfunctional Attitudes Scale (DAS) (Weissman & Beck, 1978) for both the male ($r = .68$) and female ($r = .32$) versions. Moderate correlations were also found for both the male ($r = -.48$) and the female ($r = -.42$) versions with the total score of the Sexual Beliefs and Information Questionnaire (SBIQ) (Adam et al, 1996). The negative correlations are due to the inverse meaning of the scores, high scores on the SBIQ mean high degree of accurate sexual information and high scores on the SDBQ mean high degree of sexual dysfunctional beliefs.

Factor analysis for the female version identified six factors accounting for 43% of the total variance: sexual conservatism, sexual desire as a sin, age related beliefs, body image beliefs, denying affection primacy, and motherhood primacy. Sexual conservatism is defined as coitus being the central aspect of sexuality, and masturbation, oral sex, and anal sex are viewed as deviant and sinful; women play a passive, receptive sexual role, with virginity being an important value for non married women. Sexual desire as a sin includes beliefs that sex is a male activity, and women must control their sexual urges and pleasures since they are thought to be sinful. Age related beliefs entail sexual desire, pleasure, and orgasm decreasing with age, especially after menopause. Body image beliefs focus on body image being a central aspect of female sexuality. Denying affection primacy includes items on affection, love, and agreement

between partners constituting the central aspect of human sexuality. Higher factor scores signify lower affection primacy. Motherhood primacy, is defined as motherhood activities being the most important female pleasure, and procreation being the main goal of any sexual experience.

Factor analysis identified six factors that accounted for 49% of the total variance in the male version: sexual conservatism, female sexual power, “macho” belief, beliefs about women’s sexual satisfaction, restricted attitude towards sex, and sex as an abuse of men’s power. Sexual conservatism, is defined as sex before marriage being unacceptable, and sex having to be quick, directed to coitus, without foreplay, with man on top, and serving procreative goals. Female sexual power involves, viewing female sexual power as a danger. “Macho” belief, involves the ideas that men should always be ready for sex, should satisfy all women and should maintain an erect penis until the end of any sexual activity. Beliefs about women’s sexual satisfaction involve, the importance to satisfy female partners and penile erection and vaginal coitus as necessary conditions to satisfy women sexually. Restricted attitude toward sexual activity includes, sexual fantasies, oral sex, and anal sex as unhealthy or incorrect experiences. Sex as an abuse of men’s power is defined as, sex as an act of violation and abuse of a woman’s body by a male.

Sexual Modes Questionnaire (SMQ). The SMQ assesses automatic thoughts, emotions, and sexual response which occur during sexual activity (Nobre & Pinto-Gouveia, 2003). The measure is composed of an automatic thoughts subscale (AT), an emotional response subscale (ER), and a sexual response subscale (SR). Both the male and female version were used in this study. The male version contains 30 items, and the female version contains 33 items. The participants are asked to rate the frequency in which they experienced automatic thoughts during sexual activity on a response scale ranging from 1 (never) to 5 (always). For each item participants are also asked to indicate their emotional experience by checking which of the 10 emotions presented (worry, sadness, disillusion, fear, guilt, shame, anger, hurt, pleasure and

satisfaction) apply to them. In addition participants also indicate their subjective sexual arousal for each item by rating the intensity on a 5 point scale ranging from 1 (very low) to 5 (very high).

Psychometric studies have been conducted which support the reliability and validity of the subscales. Test-retest reliability was supported for the female version ($r = .95$), and the male version ($r = .65$) for the total scale between two consecutive administrations within a two-week interval. Internal consistency has been shown with a Cronbach's alpha of .88 for the male version and .87 for the female version. Convergent validity was supported by correlations between the AT subscales and measures of sexual functioning. Moderate correlations were found between the female AT sub-scale and the FSFI ($r = .49$) and the male AT subscale and the IIEF ($r = .60$).

Factor analysis on the female version identified six factors explaining 53.1% of the total variance: sexual abuse thoughts, failure and disengagement thoughts, partner's lack of affection, sexual passivity and control, lack of erotic thoughts, and low self body image thoughts. Sexual abuse thoughts, include thoughts about being abused, disrespected, and violated by the sexual partner. Failure and disengagement thoughts, involve thoughts of incapacity for sexual performance and lack of motivation to engage in sexual activity. Partner's lack of affection, is composed of thoughts of not being treated with care and affection by the partner including sexual activity. Sexual passivity and control, involves thoughts reflecting the idea that women must wait for the male's first step in order to match cultural values and to prevent emotional harm. Lack of erotic thoughts is formed from thoughts of sexual erotic content, however the domain is scored in reverse order, with higher scores representing a lack of these thoughts. Low self-body image thoughts, include thoughts of not being comfortable with one's body image.

Factor analysis was also conducted on the male version with five factors being identified, which explained 54.7% of the variance: failure anticipation and catastrophizing thoughts, erection concern thoughts, age and body function related thoughts, negative thoughts towards

sex, and lack of erotic thoughts. Failure anticipation and catastrophizing thoughts include thoughts of incapacity to perform, failure anticipation and magnifying the negative consequence of failure. Erection concern thoughts involve thoughts specifically related to penis reaction and concerns about capacity for intercourse. Age and body function related thoughts is represented by thoughts of being old and its implications regarding sexual activity and partner's attraction. Negative thoughts toward sex includes conservative and negative thoughts towards sexuality. lack of erotic thoughts include sexual and erotic thoughts which are scored in reverse order so higher values represent less erotic thoughts.

Female Sexual Function Index (FSFI). The FSFI is a 19 item self report measure which assesses female sexual function. Higher scores on each subscale indicate better levels of sexual functioning (Rosen et al, 2000). Test retest reliability was relatively high for all of the domains ($r = .79$ to $.86$) and for the total scale ($r = .88$). Internal consistency was determined with a Cronbach's alpha of $.97$. Discriminant validity was assessed by comparing the mean responses of individuals with Female Sexual Arousal Disorder (FSAD), with those of a control group. Statistically significant differences were found for all of the domains and the full-scale score. Divergent validity was supported by low to moderate correlations between the FSFI and the Locke Wallace Marital Adjustment Test. Based on the results of factor analysis, five domains of sexual function were identified within the scale: desire/ arousal, lubrication, orgasm, satisfaction, and pain. Modifications were made to the scoring of the FSFI in the current study due to conceptual problems identified by Meyer-Bahlberg and Dolezal (2007). Women who had not engaged in sexual activity in the preceeding 4 weeks were excluded from analyses of all subscales except for Sexual Desire, as it is not dependent on sexual activity.

International Index of Erectile Function (IIEF). The IIEF is a 15 item self-report measure which aims to assess erectile function (Rosen et al, 1997). Internal consistency was supported with Cronbach's alpha ranging from $.91$ to $.96$ depending on the sample. Test retest

reliability was examined for administrations of the measure 4 weeks apart with the correlation between all of the items being $r = .82$. Discriminant validity was supported by the ability of the measure to differentiate between men with erectile dysfunction and controls, on all but one domain of the scale. Convergent validity was supported with significant positive correlations between independent clinician ratings and subscale scores on all domains. All domains of the IIEF demonstrated a high degree of sensitivity and specificity to the effects of treatment, assessed by comparing the pretreatment and post treatment domain scores in patients defined as responders and non-responders. Factor analysis identified five domains within this measure: erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Due to recent conceptual problems identified with the IIEF by Yule, Davison, and Brotto (2011), modifications were made to the scoring of the IIEF in the current study. Men who had not engaged in sexual activity during the preceding four weeks were excluded from analyses of all subscales except for sexual desire and overall satisfaction, as those subscales are not dependent on sexual activity.

Vancouver Index of Acculturation (VIA). The VIA is a 20 item self report measure with 10 items assessing heritage acculturation and a separate dimension with 10 items assessing mainstream acculturation (Ryder, Alden, & Paulhus, 2000). “Heritage culture” refers to one’s culture of birth, whereas “mainstream culture” refers to the culture of one’s current environment. High scores on the heritage dimension reflect maintenance of the culture of one’s origin. High scores on the mainstream dimension reflect a greater degree of Westernization. Each item was rated on a Likert scale ranging from 1 (not at all) to 5 (very much so). Internal consistency has been supported among East Asians with a Cronbach’s alpha of .92 for heritage acculturation and .85 for mainstream acculturation. Concurrent validity was supported by significant correlations between the mainstream and heritage subscales with the percentage of time lived in a Western, English speaking country, percentage of time educated in a Western English speaking country,

generational status, whether individuals planned to return to country of origin, status of English as a first or second language, Western identification in a unidimensional fashion, and mean SL-ASIA score (an acculturation measure for Asian Americans).

Procedure

Participants were notified of the study through an online posting via the Psychology Department's Human Subject Pool. Interested individuals came in person to a laboratory located within the Department of Psychology on the campus of a large Canadian University, where a research assistant informed them of the purposes of the study and the participant provided consent orally. Participants were informed that they have the right to refuse to participate or withdraw from the study at any time without consequence, and that participation was completely anonymous and confidential. Participants completed the questionnaire on their own time in a private place. Completion of the questionnaire package took approximately one hour. Participants were asked to return questionnaire to the laboratory. Upon returning the questionnaire, participants were debriefed, any questions or concerns were addressed, and participants received one credit towards an undergraduate psychology course. The order of the measures in the questionnaire package for the female version was: demographic information, SDBQ, SMQ, FSFI, and VIA. The order of the measures in the male version of the questionnaire was: demographic information, SDBQ, SMQ, IIEF and VIA. Measures were given in order of their importance to the current study, allowing the most relevant measures the greatest chance at being completed.

Results

Ethnic Group Comparisons on Sexual Beliefs in Females

In order to examine the difference between the sexual beliefs endorsed by East Asian and Euro-Caucasian females, a multivariate analysis of covariance (MANCOVA) using ethnicity as the independent variable, and scores on the six dimensions of the female SDBQ as dependent variables was performed. Age was included as a covariate to control for the difference between the two groups (Wilk's Lambda = 0.98, $F(6, 183) = 0.68$, $p = .670$). After we controlled for the effect of age, the multivariate test indicated a statistically significant effect for ethnicity (East Asian group/ Euro-Caucasian group; Wilk's Lambda = .71, $F(6, 183) = 12.20$, $p < .001$).

Due to accumulating Type 1 error on comparisons across the six belief variables, the Bonferroni correction was used. Only mean differences of $p < .008$ ($p < .05/6$) were considered statistically significant. As shown in Table 2, the effect of ethnicity was statistically significant for all beliefs (sexual conservatism, sexual desire and pleasure as a sin, age related beliefs, body image beliefs, denying affection primacy, and motherhood primacy). Specifically, East Asian females presented significantly higher scores on all but one SDBQ dimension compared to Euro-Caucasian females. Euro-Caucasian females were significantly higher than East Asians in their endorsement of beliefs relating to denying affection primacy. The effect sizes ranged from low to moderate (.05 - .26).

Sexual Beliefs and Acculturation in Females

To examine the effects of acculturation in the East Asian sample, a set correlation was performed with the two dimensions of the VIA and the six dimensions from the female version of the SDBQ. There was a statistically significant relationship between acculturation and dysfunctional sexual beliefs (Wilk's Lambda = 0.78, $F(12, 218) = 2.41$, $p < .006$). Correlations between the sexual belief domains and the acculturation domains are shown in Table 3. Due to accumulating Type 1 error on correlations across the six SDBQ variables, the Bonferroni

correction was used. Only mean differences of $p < .008$ ($p < .05/6$) were considered statistically significant. There was a statistically significant positive correlation between the VIA heritage dimension and SDBQ sexual conservatism. There was also a statistically significant negative correlation between the VIA mainstream dimension and SDBQ sexual desire and pleasure as a Sin. Correlations were also performed between sexual beliefs domains and years lived in Canada for East Asian women to further examine the effect of acculturation (see Table 3). None of these correlations reached statistical significance.

Sexual Beliefs and Sexual Functioning in Females

The Age Related Beliefs domain and motherhood primacy domain from the SDBQ were excluded from all analyses of sexual functioning. The majority of participants did not have children, and the mean age of the sample was 22, therefore it was not expected that ascribing to these beliefs would currently affect sexual functioning.

The relationship between sexual beliefs and sexual functioning in East Asian females was examined using a set correlation, with four of the dimensions from the SDBQ and the six dimensions from the FSFI. The relationship between sexual beliefs and sexual functioning was statistically significant in this group (Wilk's Lambda = .40, $F(24, 182) = 2.29$, $p = .001$).

Individual correlations between the four SDBQ dimensions and the six FSFI dimensions were also conducted and are shown in Table 4. Due to accumulating Type 1 error on correlations across the four SDBQ variables the Bonferroni correction was used. Only correlations of $p < .0125$ ($p < .05/4$) were considered statistically significant. There were statistically significant negative correlations between SDBQ sexual conservatism and FSFI desire, as well as with FSFI pain (higher scores correspond to less pain). In addition, there were statistically significant correlations between SDBQ sexual desire and pleasure as a sin and two FSFI dimensions: desire and pain. There was also a statistically significant negative correlation between SDBQ body

image beliefs and FSFI pain, as well as between SDBQ denying affection primacy and FSFI pain.

The relationship between sexual beliefs and sexual functioning was also examined in Euro-Caucasian females using a set correlation, with four of the dimensions from the SDBQ and the six dimensions from the FSFI. The relationship between sexual beliefs and sexual functioning was not statistically significant in this group (Wilk's Lambda = .47, $F(24, 116) = 1.18$, $p = .272$).

Ethnic Group Comparisons on Automatic Thoughts in Females

In order to examine the difference between the automatic thoughts endorsed by East Asians and Euro-Caucasians a multivariate analysis of covariance (MANCOVA) using ethnicity as the independent variable and scores on the six dimensions of the female SMQ as dependent variables was performed. Only those who had sexual intercourse were included in all analyses of the SMQ as questions refer to thoughts that occur during sexual activity. Age was included as a covariate to control for the difference between the two groups (East Asian group/ Euro-Caucasian group; Wilk's Lambda = 0.95, $F(6, 106) = 1.00$, $p = .431$). After we controlled for the effect of age, the multivariate test was statistically significant (East Asian group/ Euro-Caucasian group; Wilk's Lambda = 0.89, $F(6, 106) = 2.27$, $p = .042$).

Due to accumulating Type 1 error on comparisons across the six automatic thought dimensions, the Bonferroni correction was used and therefore only mean differences of $p < .008$ ($p < .05/6$) were considered statistically significant. As shown in Table 5, the effect of ethnicity was not statistically significant for any of the automatic thoughts.

Automatic Thoughts and Acculturation in Females

To examine the relationship between acculturation and automatic thoughts in the East Asian sample, a set correlation was performed with the two dimensions of the VIA and the six dimensions from the female version of the SMQ. The relationship between acculturation and

automatic thoughts was not significant (Wilk's Lambda = 0.74, $F(12, 110) = 1.47$, $p = .147$).

The relationship between the number of years living in Canada and each of the automatic thoughts was examined using correlations. Due to accumulating Type 1 error on correlations across the 6 thought dimensions, Bonferroni corrections was used. Therefore only correlations of $p < .008$ ($p < .05/6$) were considered statistically significant. There were no statistically significant relationships between these variables as shown in Table 6.

Automatic Thoughts and Sexual Functioning in Females

The relationship between automatic thoughts and sexual functioning was examined in both groups of females using a set correlation, with the six thought dimensions from the SMQ and the six dimensions from the FSFI. The relationship between automatic thoughts and sexual functioning was statistically significant among East Asian women (Wilk's Lambda = 0.19, $F(36, 169) = 2.19$, $p < .001$). Individual correlations between the SMQ dimensions and the FSFI within this group were also conducted and are shown in Table 7. Due to accumulating Type 1 error on correlations across the six thought dimensions, the Bonferroni correction was used. Therefore only correlations of $p < .008$ ($p < .05/6$) were considered statistically significant. Five of the FSFI dimensions were statistically significantly negatively correlated with SMQ failure/disengagement thoughts (arousal, lubrication, orgasm, satisfaction, and pain). There were statically significant negative correlations between SMQ sexual passivity and control, and four of the FSFI dimensions (arousal, lubrication, orgasm, and satisfaction). There were also statistically significant negative correlations between SMQ lack of erotic thoughts, and three FSFI dimensions (desire, arousal, and satisfaction). In addition, SMQ low self body image thoughts was statistically significantly negatively correlated with FSFI lubrication, and FSFI satisfaction.

The relationship between automatic thoughts and sexual functioning was also significant among Euro-Caucasian women (Wilk's lambda = 0.10, $F(36, 86) = 1.63$, $p = .034$). Individual

correlations between the SMQ dimensions and the FSFI within this group were also conducted and are shown in Table 8. Due to accumulating Type 1 error on correlations across the six thought dimensions, the Bonferroni correction was used. Therefore only correlations of $p < .008$ ($p < .05/6$) were considered statistically significant. There were statistically significant negative correlations between SMQ sexual abuse thoughts and FSFI satisfaction, and FSFI pain (higher scores correspond to less pain). There were statistically significant negative correlations between SMQ failure/ disengagement thoughts and several FSFI dimensions including: arousal, lubrication, orgasm, and satisfaction. There were also statistically significant negative correlations between SMQ partner's lack of affection and FSFI dimensions: arousal, orgasm, and satisfaction. SMQ sexual passivity and control, was statistically significantly negatively correlated with FSFI dimensions: orgasm and satisfaction. There were statistically significant negative correlations between SMQ lack of erotic thoughts, and FSFI dimensions: desire arousal, and lubrication. In addition there was a statistically significant negative correlation between SMQ low self body image thoughts, and FSFI orgasm.

Ethnic Group Comparisons on Emotions in Females

In order to examine the difference between the emotions endorsed by East Asians and Euro-Caucasians a multivariate analysis of covariance (MANCOVA) using ethnicity as the independent variable and scores on the ten emotion dimensions of the female SMQ as dependent variables was performed. Age was included as a covariate to control for the difference between the two groups (Wilk's Lambda = 0.88, $F(10,135) = 1.94$, $p = .045$). After we controlled for the effect of age, the multivariate test indicated the effect of ethnicity was not statistically significant (Wilk's Lambda = .90, $F(10, 135) = 1.48$, $p = .16$). Therefore comparisons between individual means were not conducted, however descriptive statistics are included in table 9.

Emotions and Acculturation in Females

To examine the effects of acculturation in the East Asian sample, a set correlation was performed with the two dimensions of the VIA and the ten emotion dimensions from the female version of the SMQ. The relationship between acculturation and dysfunctional sexual beliefs was not statistically significant (Wilk's Lambda = 0.66, $F(20, 124) = 1.44$, $p = .118$). Correlations were conducted between years in Canada and the ten emotions dimensions. Due to accumulating Type 1 error on correlations across the six thought dimensions, only correlations of $p < .005$ ($p < .05/10$) were considered statistically significant. There were no statistically significant relationships between these variables as shown in table 10.

Emotions and Sexual Functioning in Females

The relationship between emotions experienced during sexual activity and sexual functioning was also examined in the two female groups (Euro-Caucasian and East Asian) using a set correlation, with the 10 emotion dimensions from the SMQ and the six dimensions from the FSFI. The relationship between emotions and sexual functioning was not significant in either of these groups (Euro-Caucasian females: Wilk's Lambda = 0.15, $F(60, 157) = 1.15$, $p = .253$; East Asian females: (Wilk's Lambda = 0.30, $F(60, 246) = 1.07$, $p = .359$).

Male Ethnic Group Comparisons on Sexual Beliefs

In order to examine the difference between the sexual beliefs endorsed by East Asian and Euro-Caucasian males a multivariate analysis of covariance (MANCOVA) using ethnicity as the independent variable, and scores on the six dimensions of the female SDBQ as dependent variables was performed. Age and relationship status were included as covariates to control for the difference between the two groups (age - Wilk's Lambda = 0.98, $F(6, 187) = 0.65$, $p = .691$; relationship status - Wilk's Lambda = .86, $F(6, 187) = 5.04$, $p < .001$). After we controlled for the effect of age and relationship status, the multivariate test indicated a statistically significant

effect for ethnicity (East Asian group/ Euro-Caucasian group; Wilk's Lambda = .79, $F(6, 187) = 8.52, p < .001$).

Due to accumulating Type 1 error on comparisons across the six belief variables, the Bonferroni correction was used. Only mean differences of $p < .008$ ($p < .05/6$) were considered statistically significant. As shown in Table 11, the effect of ethnicity was statistically significant for all beliefs (sexual conservatism, female sexual power, "macho" belief, restrictive attitude toward sex, and sex as an abuse of men's power) except for beliefs about women's satisfaction. Specifically, East Asian males presented significantly higher scores on these SDBQ dimensions compared to Euro-Caucasian males. The effect sizes were relatively small (.04 - .17).

Sexual Beliefs and Acculturation in Males

To examine the effects of acculturation in the East Asian sample, a set correlation was performed with the two dimensions of the VIA and the six dimensions from the male version of the SDBQ. The relationship between acculturation and dysfunctional sexual beliefs was not significant (Wilk's Lambda = 0.86, $F(12, 222) = 1.48, p = .133$). Correlations were also performed between sexual beliefs domains and years lived in Canada for East Asian men to further examine the effect of acculturation (see Table 12). None of these correlations reached statistical significance.

Sexual Beliefs and Sexual Functioning in Males

The relationship between sexual beliefs and sexual functioning in East Asian males was examined using a set correlation, with the six SDBQ dimensions and the five dimensions from the IIEF. The relationship between sexual beliefs and sexual functioning was significant in this group (Wilk's Lambda = .35, $F(30, 190) = 1.93, p = .004$).

Individual correlations between the six SDBQ dimensions, and the five IIEF dimensions were also conducted and are shown in Table 13. Due to accumulating Type 1 error on correlations across the four SDBQ variables, the Bonferroni correction was used. Only

correlations of $p < .008$ ($p < .05/6$) were considered statistically significant. There were statistically significant negative correlations between SDBQ sexual conservatism, and three of the IIEF domains (erectile function, orgasm function, sexual desire). There were also statistically significant negative correlations between SDBQ “macho” belief, and IIEF overall satisfaction. In addition, there were statistically significant negative correlations between SDBQ sex as an abuse of men’s power and IIEF orgasm function.

The relationship between sexual beliefs and sexual functioning in Euro-Caucasian males was examined using a set correlation, with the six SDBQ dimensions and the five dimensions from the IIEF. The relationship between sexual beliefs and sexual functioning was not statistically significant in this group (Wilk’s Lambda = 0.54, $F(30, 142) = 0.79$, $p = .772$).

Ethnic Group Comparisons on Automatic Thoughts in Males

In order to examine the difference between the automatic thoughts endorsed by East Asian and Euro-Caucasian males, a multivariate analysis of covariance (MANCOVA) using ethnicity as the independent variable and scores on the five dimensions of the female SMQ as dependent variables was performed. Only those who had sexual intercourse were included in all analyses of the SMQ as questions refer to thoughts that occur during sexual activity. Age and relationship status were included as covariates to control for the difference between the two groups (East Asian group/ Euro-Caucasian group; age - Wilk’s Lambda = 0.91, $F(5, 129) = 2.51$, $p = .033$; relationship status - Wilk’s Lambda = .88, $F(5, 129) = 3.46$, $p = .006$). After we controlled for the effect of age and relationship status, the multivariate test was not statistically significant (East Asian group/ Euro-Caucasian group; Wilk’s Lambda = 0.93, $F(5, 129) = 2.08$, $p = .072$). As a result comparisons between individual automatic thoughts were not conducted, however descriptive statistics are included in table 14.

Automatic Thoughts and Acculturation in Males

To examine the relationship between acculturation and automatic thoughts in the East Asian male sample, a set correlation was performed with the two dimensions of the VIA and the five dimensions from the female version of the SMQ. The relationship between acculturation and automatic thoughts was not statistically significant (Wilk's Lambda = 0.80, $F(10, 146) = 1.74$, $p = .077$). The relationship between the number of years living in Canada and each of the automatic thoughts was examined using correlations. Due to accumulating Type 1 error on correlations across the five thought dimensions, only correlations of $p < .01$ ($p < .05/5$) were considered statistically significant. There were no statistically significant relationships between these variables as shown in Table 15.

Automatic Thoughts and Sexual Functioning in Males

The relationship between automatic thoughts and sexual functioning was also examined in males using a set correlation, with the five thought dimensions from the SMQ and the five dimensions from the IIEF. The relationship between sexual thoughts and sexual functioning was statistically significant in East Asian men: (Wilk's Lambda = 0.23, $F(25, 150) = 2.93$, $p < .001$). Individual correlations between the SMQ dimensions and the IIEF dimensions within this group were also conducted and are shown in Table 16. Due to accumulating Type 1 error on correlations across the five thought dimensions, only correlations of $p < .01$ ($p < .05/5$) were considered statistically significant. There were significant negative correlations between SMQ failure anticipation thoughts and three of the IIEF dimensions (erectile function, sexual desire, and intercourse satisfaction). There were also significant negative correlations between SMQ erection concern thoughts and IIEF erectile function, IIEF sexual desire, and IIEF intercourse satisfaction. In addition SMQ age and body related thoughts were significantly correlated with IIEF erectile function, and IIEF orgasm function. There were also significant negative correlations between negative thoughts toward sex and IIEF erectile function, IIEF orgasm

function, and IIEF intercourse satisfaction. SMQ lack of erotic thoughts was significantly negatively correlated with IIEF erectile function, IIEF orgasm function, and IIEF sexual desire.

The relationship between automatic thoughts and sexual functioning was significant among Euro-Caucasian men (Wilk's lambda = 0.12, $F(25, 109) = 3.44$, $p < .001$). Individual correlations between the SMQ dimensions and the FSFI within this group were also conducted and are shown in Table 17. Due to accumulating Type 1 error on correlations across the five thought dimensions only correlations of $p < .01$ ($p < .05/5$) were considered statistically significant. There was a significant negative correlation between SMQ failure anticipation thoughts and IIEF erectile function, IIEF intercourse satisfaction, as well as with IIEF overall Satisfaction. SMQ erection concern thoughts were statistically significantly negatively correlated with IIEF erectile function, and IIEF intercourse satisfaction. There were statistically significant negative correlations between SMQ negative thoughts toward sex and IIEF intercourse satisfaction, as well as with IIEF overall satisfaction. In addition there were statistically significant negative correlations between SMQ lack of erotic thoughts and IIEF erectile function, and IIEF intercourse satisfaction.

Ethnic Group Comparisons on Emotions in Men

In order to examine the difference between the emotions endorsed by East Asians and Euro-Caucasians, a multivariate analysis of covariance (MANCOVA) using ethnicity as the independent variable and scores on the ten emotion dimensions of the female SMQ as dependent variables was performed. Age and relationship status were included as a covariate to control for the difference between the two groups (age - Wilk's Lambda = 0.66, $F(10, 77) = 4.01$, $p < .001$; relationship status - Wilk's Lambda = 0.87, $F(10, 77) = 1.15$, $p = .130$). After we controlled for the effect of age, the multivariate test indicated the effect of ethnicity was statistically significant (Wilk's Lambda = .79, $F(10, 77) = 2.02$, $p = .042$).

Due to accumulating Type 1 error on comparisons across the 10 emotion variables, the Bonferroni correction was used, only mean differences of $p < .005$ ($p < .05/10$) were considered statistically significant. As shown in Table 18, the effect of ethnicity was statistically significant for Fear. Specifically, East Asian males presented significantly higher scores on this dimension compared to Euro-Caucasian males; however, the effect size was small (.09).

Emotions and Acculturation in Men

To examine the effects of acculturation in the East Asian male sample, a set correlation was performed with the two dimensions of the VIA and the ten emotion dimensions from the male version of the SMQ. The relationship between acculturation and dysfunctional sexual beliefs was not statistically significant (Wilk's Lambda = 0.56, $F(20, 72) = 1.20$, $p = .282$). Correlations were conducted between years in Canada and the ten emotions dimensions. Due to accumulating Type 1 error on correlations across the six thought dimensions, only correlations of $p < .005$ ($p < .05/10$) were considered statistically significant. There were no significant relationships between these variables as shown in table 19.

Emotions and Sexual Functioning in Men

The relationship between emotions experienced during sexual activity and sexual functioning was also examined in the two male groups (Euro-Caucasian and East Asian) using a set correlation, with the ten emotion dimensions from the SMQ and the five dimensions from the IIEF. The relationship between emotions and sexual functioning was not statistically significant in East Asian males (Wilk's Lambda = 0.05, $F(50, 76) = 1.47$, $p = .064$). The relationship between emotions and sexual functioning was statistically significant in Caucasian males (Wilk's Lambda = 0.12, $F(50, 48) = 1.62$, $p = .046$). Correlations were conducted between the five IIEF dimensions and the ten SMQ emotion dimensions as shown in Table 20. Due to accumulating Type 1 error on correlations across the six thought dimensions, only correlations of $p < .005$ ($p < .05/10$) were considered statistically significant. There were significant positive correlations

between SMQ pleasure IIEF and intercourse satisfaction, and IIEF overall satisfaction. There were also significant positive correlations between SMQ satisfaction and IIEF intercourse, and IIEF overall satisfaction.

Discussion

Overall, data from this study support the hypothesis that East Asians and Euro-Caucasians differ in terms of cognitive variables related to sexuality. Support is also provided for the connection between cognitive variables and sexual functioning. Together the findings from this study provide preliminary support for the hypothesis that differences in cognitive aspects of sexuality may underlie differences in sexual functioning previously observed between these two groups.

Dysfunctional Sexual Beliefs

East Asian women had higher scores on five of the six dysfunctional belief domains compared to Euro-Caucasians (age related beliefs, body image beliefs, sexual desire/ pleasure as a sin, sexual conservatism, motherhood primacy). That is, that East Asian women were more likely to endorse beliefs in which coitus is viewed as the central aspect of human sexuality, other sexual activities are deemed sinful, and females are seen as having a passive role (sexual conservatism). As well, East Asian women were more likely to agree with the idea of sex being a male activity, and view women's sexual urges and pleasures as sinful and therefore in need of control (sexual desire and pleasure as a sin). In addition, body image was more likely to be viewed as a central aspect of female sexuality among East Asian women (body image beliefs). As well beliefs relating to a women's sexual functioning declining with age (age related beliefs), and motherhood being the most important female pleasure and sex being solely for procreation (motherhood primacy) were more strongly endorsed by East Asian women. Euro-Caucasian women had significantly higher scores on the denying affection primacy domain, meaning that Euro-Caucasians view the importance of affection, love and agreement as a less important aspect of human sexuality compared to East Asians. The differences between these groups however were relatively small, with the exception of sexual conservatism for which the effect size was in the moderate range.

Among the men, East Asians had significantly higher scores on five of the six dysfunctional sexual belief domains compared to Euro-Caucasians (sexual conservatism, female sexual power, “macho” belief, restrictive attitude toward sex, and sex as an abuse of men’s power). The two groups did not significantly differ in terms of beliefs about women’s satisfaction. This means that East Asian men were more likely to endorse statements reflecting conservative ideas about sexual behavior (sexual conservatism), need for sexual control (female sexual power), and that sex is an act of violation or abuse of a woman’s body (sex as an abuse of men’s power). In addition, East Asian men believed more strongly that men should always be ready for sex, should satisfy all women, and should maintain an erect penis until the completion of sexual activity (“macho” Belief). Sexual fantasies, oral sex, and anal sex, were also more likely to be viewed as unhealthy/inappropriate experiences among East Asian men (restricted attitude toward sexual activity). Similar to results in the female group, the magnitude of the effect size for these variables suggests the differences between the degree of endorsement of these beliefs was relatively small.

This is the first study to date to compare ethnic groups have been compared in terms of sexual beliefs. Previous studies however have examined differences in levels of sexual conservatism between these two groups, but have not considered a wider range of sexual beliefs. East Asians have been found to have more conservative sexual attitudes compared to Euro-Caucasians (Ahrold & Meston, 2008; Meston et al., 1998). This is consistent with our finding that sexual conservatism was greater in East Asians among both men and women.

Sexual conservatism, age related beliefs, body image beliefs, and sexual desire/pleasure as a sin have previously been shown to be higher among women with a sexual dysfunction (Nobre & Pinto-Gouveia, 2008b; 2006a). Similarly, beliefs encompassing “machoism,” demands for women’s sexual satisfaction, and restricted attitude toward sex have been shown to be higher among men with a sexual dysfunction (Nobre & Pinto-Gouveia, 2000). Given that these beliefs

were higher among East Asians (with the exception of demands for women's sexual satisfaction), this suggests that differences in sexual beliefs may underlie some of the differences in sexual behaviors and sexual functioning frequently observed between East Asians and Caucasians. (Caine et al., 2003; Brotto et al., 2005; Laumann et al., 2005; Meston et al., 1996, 1998; Meston & Ahrold, 2008; Woo et al., 2010; Woo & Brotto, 2008). For example, East Asian women's higher endorsement of dysfunctional sexual beliefs may contribute to difficulties in sexual functioning previously identified in the literature such as, lower levels of sexual desire (Brotto et al., 2005; Brotto, Woo & Gorzalka, 2011; Woo, Brotto, & Gorzalka, 2010; 2012), higher levels of anorgasmia, vaginismus, and sexual complaints (Woo & Brotto, 2008). In East Asian men, dysfunctional sexual beliefs may potentially underlie the higher prevalence of sexual complaints (Woo & Brotto, 2008), lower levels of sexual desire (Brotto et al., 2011) erection difficulties (Laumann et al., 2005) previously observed in this group. Denying affection primacy, which was higher among Euro-Caucasian women has not been previously found to differ among those with and without sexual dysfunction (Nobre & Pinto-Gouveia, 2008b; 2006a), suggesting that this belief may not have a strong influence on sexual functioning. Future research examining the relationship between ethnicity, sexual beliefs, and sexual functioning is needed in order to further investigate the possibility that beliefs may underlie differences in sexual functioning in these two groups.

The relationship between acculturation and dysfunctional sexual beliefs in East Asian women was also statistically significant. This suggests that dysfunctional sexual beliefs are associated with acculturation. The significant relationships between greater heritage acculturation and sexual conservatism suggests that those who ascribe more to East Asian culture, ascribe more strongly to these beliefs. The significant negative relationship between mainstream acculturation and sexual desire and pleasure as sin, suggests that more Westernized women ascribe less strongly to these beliefs. Overall these results support the idea that

endorsement of dysfunctional sexual beliefs is greater among East Asian women who have retained their culture of origin, and less among those who have assimilated with Western culture.

The relationship between acculturation and dysfunctional sexual beliefs in men was not statistically significant, suggesting that men's level of acculturation may not strongly relate to the degree to which men endorse dysfunctional sexual beliefs. This result was not consistent with previous research which has found sexual conservatism in men to vary according to acculturation. For instance associations have been found between sexual conservatism and both heritage and mainstream acculturation in East Asian men (Ahrold, & Meston, 2008). Ahrold and Meston (2008) was an American study however, therefore it is possible the relationship between acculturation and sexual conservatism is greater among East Asian men living in the United States than those in Canada. Another possibility for this difference is that the men included in the current study were similar in their level of acculturation, reducing the variability in the current sample, and therefore decreasing the magnitude of the relationship between these two sets of variables.

Although sexual beliefs and acculturation have not been explicitly investigated in previous studies, heritage acculturation has been previously shown to be associated with sexual conservatism, whereas mainstream acculturation has been shown to be associated with more liberal sexual attitudes (Ahrold & Meston, 2008; Brotto et al., 2005). This is consistent with our finding regarding heritage acculturation and sexual conservatism in East Asian women. Although the negative relationship between mainstream acculturation and sexual conservatism was not significant in the current study, there was a trend in this direction.

Previous research has shown that mainstream acculturation is associated with enhanced sexual functioning in East Asians. For instance, more identification with Western culture has been found to be predictive of less sexual complaints, less sexual non-communication, less sexual avoidance, less non-sensuality (Woo & Brotto, 2008), and more sexual desire (Woo et al.,

2010). Additionally, beliefs relating to sexual conservatism and sexual desire and pleasure as a sin have been shown to be more common in women with sexual dysfunction (Nobre & Pinto-Gouveia, 2008b; 2006a). This suggests that these dysfunctional sexual beliefs could be a possible contributing factor to the significant relationship between acculturation and sexual functioning in women.

The relationship between sexual beliefs and sexual functioning was not statistically significant in either Euro-Caucasian men or women. This is surprising, given that previous research has found endorsement of these beliefs to differ between those with and without a sexual dysfunction (Nobre & Pinto-Gouveia, 2000; 2008b; 2006a). The lack of significant relationship in this study may have been due to the smaller sample size, and therefore reduced power compared to the East Asian group. These non-significant results could also be due to lower variability within the Euro-Caucasian group, which may reduce the magnitude of the relationship between these variables.

The relationship between sexual beliefs and sexual functioning was statistically significant in East Asian women. Among this group, there was a negative relationship between sexual conservatism, and sexual desire, as well as experiencing less pain during sexual activity. This relationship between sexual conservatism and more problematic sexual functioning is consistent with the literature. Sexual conservatism has been shown to be greater among those with subjective arousal disorder, lubrication difficulties (Nobre, & Pinto-Gouveia, 2008b), and vaginismus (Borg, de Jong, & Schultz, 2011). Beliefs relating to sexual desire and pleasure as a sin were also associated with more difficulties in sexual functioning including desire and pain in East Asian women. This is reminiscent of previous research in which viewing sexual desire and pleasure as a sin was shown to be higher among women with hypoactive sexual desire disorder, subjective sexual arousal disorder, and lubrication difficulties (Nobre, & Pinto-Gouveia, 2008b). Beliefs relating to body image in East Asian women were associated with greater pain during

sexual activity. Previous studies have also found body image beliefs to be higher among women with a sexual dysfunction (Nobre, & Pinto-Gouveia, 2006a). In addition, beliefs regarding Denying Affection Primacy were associated with lower levels of satisfaction in East Asian women. This is surprising as previous research has not found this belief to differ among those with and without sexual dysfunction (Nobre & Pinto-Gouveia, 2008b; 2006a), suggesting it may not be strongly associated with sexual dysfunction. Alternatively, the strength of relationship between specific sexual beliefs and sexual functioning may vary between cultures. Therefore this relationship may have not been observed previously, as earlier studies have consisted primarily of Portuguese samples. Overall, these results suggest that East Asian women with higher levels of dysfunctional beliefs, especially sexual conservatism, sexual desire and pleasure as a sin, body image beliefs, and denying affection primacy may experience more sexual difficulties.

The relationship between sexual beliefs and sexual functioning was also statistically significant in East Asian men. Similar to the women, sexual conservatism was associated with more sexual difficulties on several aspects of sexual functioning including: erectile function, orgasm function, and sexual desire. Previous research in this area has not detected a relationship between sexual functioning and sexual conservatism in males (Nobre, & Pinto-Gouveia, 2000; 2006a). However, this discrepancy may be due to lower levels of sexual conservatism observed in these Portuguese samples, compared to the East Asians sample in the current study. Therefore the degree of sexual conservatism experienced among Portuguese men may not be great enough to interfere with sexual functioning. Beliefs relating to “machoism” were associated with less overall satisfaction. Previous research has detected a relationship between “macho” beliefs and sexual functioning however this has been restricted to erectile dysfunction (Nobre & Pinto-Gouveia, 2000). Beliefs relating to sex being an abuse of men’s power were associated with more difficulties in orgasmic function. Similar findings have not been identified in previous

research in this area (Nobre, & Pinto-Gouveia, 2000; 2006a). The lack of consistency between our findings and previous research may be due to the limited research on this topic in men. As well, the relationship between sexual beliefs and specific aspects of sexual functioning may vary according to culture, and previous studies in this area have consisted only of samples of Portuguese men (Carvalho & Nobre, 2011a; Carvalho & Nobre, 2011b; Nobre & Pinto-Gouveia, 2000; Nobre & Pinto-Gouveia, 2006a). Overall, these results suggest that men with higher levels of sexual conservatism, “machoism,” and beliefs regarding sex as abuse of men’s power may have more sexual difficulties.

The relationship between sexual functioning and dysfunctional sexual beliefs in the East Asian group provides further support for the idea that higher endorsement of these beliefs in East Asians compared to Euro-Caucasians may be underlying the greater difficulties in sexual functioning previously observed among East Asian men and women. The results suggest that endorsement of these beliefs may influence the way East Asian individuals interpret sexual experiences. For instance, greater endorsement of sexual conservatism may lead individuals to view sexual experiences in opposition to these beliefs, such as foreplay or sex out of wedlock, in a more negative way; this may result in interference with aspects of sexual functioning, such as reduced sexual arousal and desire.

One potential explanation for why dysfunctional sexual beliefs were higher among East Asians as opposed to Euro-Caucasians lies in one of the three major Chinese philosophical traditions, Confucianism. This philosophy has had the greatest impact on Chinese culture, and has also influenced other East Asian cultures including those of Japan and Korea (Frenier & Mancini, 1996). Confucianism became a sexually suppressive doctrine as construed by the Neo-Confucians from the Sung Dynasty onwards (Ng & Lau, 1990). This doctrine promoted suppressive sexual attitudes and behaviors including the restriction of sexual behavior outside wedlock and it being viewed as having a solely procreative role. Alternatively, contemporary

North American culture has embraced more liberal attitudes towards sexuality. Masters and Johnson developed sex therapy based on the giving and receiving of pleasure, embracing the notion of sexual freedom (Masters & Johnson, 1970). The differences in the endorsement of beliefs between East Asians and Caucasians and the relationship between these variables and acculturation are not surprising when we consider this context.

Automatic Thoughts

There was a significant overall effect for ethnic group and automatic thoughts. However none of the thought domains were statistically significant among the women. There was no significant effect for ethnic group among these variables in the men. In addition there was no significant relationship between acculturation and automatic thoughts in either East Asian men or women. These findings are in opposition to our hypothesis that cognitive variables associated with sexuality differ between ethnic groups and are associated with acculturation. In addition, given the great disparity in sexual beliefs between these groups, cognitive theory would predict that these differences would carry down to the level of automatic thoughts, as these are theorized to be the products of more global beliefs (Beck, 1964). One reason for the lack of significant differences observed may be the reduced power in these analyses that resulted from excluding all participants who had not previously engaged in intercourse. Another possibility is that participants were not able to answer accurately questions on the SMQ as it requires them to recall the thoughts they had encountered during previous sexual activity. This reliance on retrospective memory may have resulted in inaccurate responses. Given that this is the first time these thoughts have been examined in participants outside of Portugal, it is also possible that the specific thoughts identified on the SMQ do not apply to the current sample.

The relationship between automatic thoughts and sexual functioning was statistically significant in both Euro-Caucasian and East Asian women. Among Euro-Caucasian women, sexual abuse thoughts were associated with less sexual satisfaction, and greater difficulty with

pain during sexual activity. Although these particular relationships have not been identified in previous research, thoughts relating to sexual abuse have been shown to be more common among women with sexual dysfunction (Nobre & Pinto Gouveia, 2008c); more specifically, these thoughts have been shown to be higher among women with hypoactive sexual desire (Nobre & Pinto-Gouveia, 2008b) and orgasmic disorder (Cuntim & Nobre, 2011). Failure and disengagement thoughts were associated with difficulties on a number of aspects of sexual functioning including arousal, lubrication, orgasm, and satisfaction in both East Asian and Caucasian women. These thoughts were also associated with higher levels of pain among East Asian women. These findings are consistent with previous research, which has found these thoughts to be more frequent among women with a variety of sexual difficulties, including those with hypoactive sexual desire (Carvalho & Nobre, 2010a; Nobre & Pinto-Gouveia, 2008b), vaginismus (Nobre & Pinto-Gouveia, 2008b), and difficulties with orgasm (Cuntim & Nobre, 2011; Nobre & Pinto Gouveia, 2008b).

Among Euro-Caucasian women only, thoughts relating to Partner's Lack of Affection were associated with lower arousal, and satisfaction, as well as more difficulties with orgasm. Although no previous research has identified associations between lower arousal and satisfaction with these types of thoughts, women with orgasm difficulties have been shown to experience more thoughts relating to Partner's Lack of Affection compared to other women (Cuntim & Nobre, 2011). Sexual passivity and control thoughts were associated with greater difficulty with orgasm and less satisfaction in both groups. In addition these thoughts were also associated with lubrication and arousal difficulties in East Asian women. A relationship between sexual passivity and control thoughts and orgasm has been observed in a previous study in which these thoughts were shown to be more frequent among women with orgasm difficulties (Cuntim & Nobre, 2011). Lower levels of erotic thoughts were associated with lower sexual desire and arousal in both East Asian and Euro-Caucasian women. Lower levels of erotic thoughts were also

associated with lower levels of satisfaction in East Asian women, and lower levels of lubrication among Euro-Caucasian women. This is consistent with results from previous studies which have found lower endorsement of erotic thoughts to be higher among those with hypoactive sexual desire (Nobre & Pinto Gouveia, 2008c), vaginismus (Nobre & Pinto-Gouveia, 2008b), and difficulties with orgasm (Cuntim & Nobre, 2011; Nobre & Pinto-Gouveia, 2008b). Low self body image thoughts were associated with greater difficulty with orgasm in Euro-Caucasian women, and greater difficulty with lubrication and lower levels of satisfaction among East Asian women. This relationship has not been detected previously in Portuguese participants (Nobre & Pinto-Gouveia, 2008b; 2008c). Therefore it is possible that relationships between body image and sexual functioning may vary according to culture. Overall, these results suggest that negative automatic thoughts are associated with more problematic sexual functioning in both East Asian and Euro-Caucasian women.

The relationship between automatic thoughts and sexual functioning was statistically significant in both East Asian and Euro-Caucasian men. The specific relationships between domains of automatic thoughts and aspects of sexual functioning varied between the two groups. Failure anticipation thoughts were associated with more problematic erectile function and intercourse satisfaction in both groups. These thoughts were also associated with lower overall satisfaction among Euro-Caucasian men, and lower sexual desire among East Asian men. This is consistent with the literature, as failure anticipation thoughts have been found to be higher among men who have a sexual dysfunction (Nobre & Pinto-Gouveia, 2008c). More specifically they have been found to be higher among men with erectile dysfunction (Nobre & Pinto-Gouveia, 2000). Erection concern thoughts were associated with more difficulty with erectile function and intercourse satisfaction in both groups. In East Asian men, these thoughts were also associated with lower sexual desire. These results are in accordance with previous research which has shown erection concern thoughts to be greater among men with sexual dysfunction

(Nobre & Pinto-Gouveia, 2008c), and to be predictive of lower sexual desire (Carvalho & Nobre, 2011a; Carvalho & Nobre, 2011b). In East Asian men age and body related thoughts were associated with more difficulty with erectile and orgasm function. This is consistent with previous research which has shown these thoughts to be higher among men with sexual dysfunction (Nobre & Pinto-Gouveia, 2008c). Negative thoughts toward sex were shown to be associated with lower intercourse satisfaction in both groups. These thoughts were also shown to be associated with more problematic erectile and orgasm function in East Asian men, and lower overall satisfaction in Euro-Caucasian men. The relationship between erectile function and negative thoughts toward sex is consistent with results from a previous study which found these thoughts were reported more frequently among men with erectile dysfunction (Nobre & Pinto-Gouveia, 2000). Lack of erotic thoughts was associated with more erectile function difficulties in both groups of men. In addition, these thoughts were associated with orgasm difficulties and lower sexual desire among East Asian men, and lower overall satisfaction among Euro-Caucasian men. These results are consistent with previous research which has found that having fewer erotic thoughts to be more likely among men with sexual dysfunction (Nobre & Pinto-Gouveia, 2008c), men with erectile dysfunction (Nobre & Pinto-Gouveia, 2000), and to be a significant predictor of low sexual desire (Carvalho & Nobre, 2011a; Carvalho & Nobre, 2011b).

The results in the current study provide limited support for the hypothesis that a higher frequency of negative automatic thoughts in East Asians compared to Euro-Caucasians may be underlying the differences in sexual functioning observed between these two groups. There was and overall difference between ethnic groups on the endorsement of automatic thoughts in women. In addition, there were strong relationships between sexual functioning and automatic thoughts, which suggests that these thoughts may contribute to difficulties in sexual functioning. Together these results suggest that the higher frequency of negative automatic thoughts experienced by East Asian women may contribute to greater difficulties in sexual functioning

found in previous studies. Future research is necessary in order to determine whether there are specific differences in the thoughts experienced between East Asians and Euro-Caucasians and whether this is associated with acculturation.

Emotions

There was a significant difference between East Asian and Euro-Caucasian males in terms of emotions experienced in response to automatic thoughts. East Asian males were found to experience significantly more fear compared to Euro-Caucasians. Previous research has shown that men with sexual dysfunctions have been shown to report more fear (Nobre & Pinto-Gouveia, 2006c), suggesting that higher levels of fear in East Asian men could potentially be contributing to differences in sexual functioning previously observed in this group (Laumann et al., 2005; Woo & Brotto, 2008). The difference in emotions experienced in response to automatic thoughts between East Asians and Euro-Caucasians was not statistically significant in women. In addition, acculturation was not statistically significantly associated with emotions endorsed in both East Asian men and women.

Although research in this area has been limited, sex guilt has been found to be higher among both East Asian men and women compared to Euro-Caucasian men and women (Brotto et al., 2010; 2011). As well, sex guilt has also been found to be associated with mainstream acculturation among East Asians (Brotto et al, 2011 & Woo et al, 2010; 2011). Therefore it is surprising that guilt was not elevated among East Asian men and women in the current study. The reason differences in sex guilt were not observed, nor were relationships identified between guilt and acculturation may be a result of the reduced power in these analyses due to the number of variables included. As well, previous studies included a measure dedicated to assessing dimensions of sex guilt, whereas in the current study guilt was one of several variables being examined on the SMQ.

Relationships between emotions endorsed and sexual functioning were not statistically significant among women of either ethnic group, nor among East Asian men. This is surprising as previous studies have found the emotions experienced during sex tend to differ depending on whether one is currently experiencing sexual dysfunction (Cado & Leitenberg, 1999; Carvalho & Nobre, 2011a; Nobre & Pinto-Gouveia, 2000; 2006c).

There was however, a statistically significant relationship between emotions endorsed and sexual functioning among Euro-Caucasian men. Feelings of pleasure and satisfaction were both associated with higher levels of intercourse satisfaction and overall satisfaction, however there were no significant relationships between any negative emotions and sexual functioning. The lack of association between sexual functioning and negative emotions in the current study is surprising, as previous studies have found men with sexual dysfunctions experience more sadness, disillusion, and fear during sexual activity (Nobre & Pinto-Gouveia, 2006c). In addition, men with erectile dysfunction have been shown to react in a more emotionally negative way, than men without sexual dysfunction in response to negative automatic thoughts (Nobre & Pinto-Gouveia, 2000). As well, shame and sadness have been shown to be significant predictors of sexual desire in men (Carvalho & Nobre, 2011a).

These findings provide limited support for our hypotheses that emotions experienced during sexual activities differ between East Asians and Caucasians. The lack of statistically significant findings may be due to a lack of power as those with limited sexual experience were excluded from analyses. As well, the same challenges with retrospective recall also apply to the emotion variables included in this study. In addition, the SMQ only inquires about emotions experienced in response to specific automatic thoughts. Participants may have found it difficult to recognize the connection between the thoughts and emotions they had experienced. This task may have been particularly difficult for East Asian participants, as it has been suggested that they may have difficulty acknowledging their emotional states, as East Asian culture promotes

restraint in expressing emotions (Sue, 1997). Future studies asking participants about emotions experienced during sexual activity independent of thoughts, and immediately after sexual activity may be more successful in studying these variables.

Limitations and Future Research

There are several limitations which may affect the conclusions drawn from this study. Firstly, the sample consisted of university students and therefore may not be representative of men and women in the general public due to differences in variables such as age and education level. In addition participants in this study had limited sexual experience which reduced power in analyses which included dimensions from the SMQ as well as the IIEF and FSFI. Secondly, participants were categorized into broad ethnic categories. Although there is similarity within East Asian cultures in terms of cultural values (Okazaki, 2002), this category is composed of several distinct cultural groups, and therefore there may be differences in the beliefs, thoughts, and emotions endorsed within these subgroups. In addition, all participants were currently living in a West Coast Canadian city. Therefore views towards sexuality in both groups of participants may be influenced by this culture as well. The cognitive experiences of sexuality among East Asians and Euro-Caucasians included in this study may differ from those who live in other regions. Thirdly, although the VIA, and FSFI, have been validated in East Asian samples (Ryder et al, 2000; Sun, Li, Jin, Fan & Wang, 2011), the IIEF, SDBQ and SMQ have not been validated in this population. Therefore this may have an impact on conclusions drawn regarding male sexual functioning, sexual beliefs, as well as automatic thoughts and the emotions that accompany them. Finally, although the current study found differences in cognitive variables associated with sexual activity between East Asians and Caucasians, and associations were found between several of these variables and aspects of sexual functioning, these differences may not be contributing to the differences in sexual functioning between these two groups. It is possible that the differences in cognitive factors observed between these two groups are a result of

differences in sexual functioning. Alternatively it is possible that other factors not examined in the current study have lead to these results. For instance lower levels of sexual experience in the East Asian group may contribute to both sexual difficulties and more problematic cognitive factors.

Future studies are needed in order to further evaluate the possibility that differences in cognitive factors are contributing to differences in sexual functioning in East Asians and Euro-Caucasians observed in previous studies. These variables need to be investigated in community samples of older participants with more sexual experience. As well, research which examines automatic thoughts and emotions through a diary entry format, in which questions are answered directly after sexual activity, may provide more accurate responses. Studies which investigate the interaction between culture, sexual functioning, and cognitive variables such as dysfunctional sexual beliefs are needed to further investigate this hypothesis.

Clinical Implications and Conclusion

Associations between cognitive variables and sexual functioning suggest that these may be important areas to target in therapy for sexual dysfunction. Relationships between automatic thoughts and sexual functioning among Euro-Caucasians suggest that these may be an important focus for therapy in this group. In East Asians, both automatic thoughts and dysfunctional sexual beliefs may be appropriate targets. Previous research on psychological treatments for sexual functioning in women has been limited and has primarily consisted of treatment involving psychoeducation, communication skill building, and behavioral techniques such as sensate focus, directed masturbation, and systematic desensitization (Bergeron et al, 2001; Hurlbert, 1993; van Lankveld et al, 2006; Masheb, Kerns & Lozano et al, 2008; Hawton, Catalin & Fagg; 1991; Heiman & Meson, 1997; Hurlbert & Apt, 1995; McCabe, 2001; Trudell et al, 2001). Among men therapy has focused on psychoeducation, communication strategies, systematic desensitization, and behavioral exercises like sensate focus, and the squeeze technique (Bach,

Barlow, & Wincze, 2004; Heiman & LoPiccolo, 1983; Heiman and Meston, 1997). Although some of these studies have incorporated cognitive techniques into the treatment provided, there has been no research conducted on the efficacy of this specific intervention. Findings from the current study suggest that cognitive techniques such as thought challenging may be beneficial in treating sexual dysfunction in East Asian and Caucasian men and women. Challenging the beliefs behind these thoughts may be particularly beneficial when working with East Asians due to the higher endorsement of these items observed in the present study. More recent research has supported the efficacy of mindfulness in treating women with sexual dysfunction (Brotto et al., 2008; Brotto, Basson & Luria, 2008; Brotto & Heiman, 2007; Brotto, Seal, & Rellini, 2012). Mindfulness is an ancient Eastern practice with roots in Buddhist meditation which involves present moment, nonjudgmental awareness (Hanh, 1976). The focus on awareness of the here and now promoted in mindfulness may also be an effective skill for individuals experiencing dysfunctional sexual beliefs, and automatic thoughts.

This study provides the first look at how sexual beliefs, automatic thoughts and the emotions associated with them differ between cultural groups. The results from this study suggest that East Asian men and women are more likely to hold dysfunctional sexual beliefs than Euro-Caucasian men and women. In addition, East Asian women and Euro-Caucasian women may differ in the frequency in which they experience negative automatic thoughts. As well results imply that East Asian men may experience higher levels of fear compared to Euro-Caucasian men during sexual activity. The current study also provides support for the idea that problematic sexual functioning may be associated with dysfunctional sexual beliefs in East Asians and automatic thoughts in both East Asians and Euro-Caucasians. Together these results provide preliminary support for the hypothesis that differences in cognitive aspects of sexuality may underlie the differences in sexual functioning previously observed between these two groups.

Table 1
Demographic Characteristics

	Females				Males			
	East Asians (<i>n</i> = 123)		Euro-Caucasians (<i>n</i> = 77)		East Asians (<i>n</i> = 128)		Euro-Caucasians (<i>n</i> = 76)	
Age								
<i>M</i>	20.43		22.23		20.70		22.53	
<i>SD</i>	2.56		5.52		1.91		5.38	
Range	29		34		12		27	
Years in Canada								
<i>M</i>	11.85		17.86		11.15		17.25	
<i>SD</i>	6.37		8.04		6.60		9.34	
Range	22		15		24		45	
Education Level								
<i>M</i>	14.95		14.60		14.75		15.10	
<i>SD</i>	1.22		2.02		1.00		1.21	
Range	9		15		4		6	
In a Relationship	50%	(<i>n</i> = 62)	47%	(<i>n</i> = 37)	35%	(<i>n</i> = 44)	51%	(<i>n</i> = 39)
Country of Birth								
Canada	29%	(<i>n</i> = 36)	78%	(<i>n</i> = 60)	21%	(<i>n</i> = 27)	75%	(<i>n</i> = 57)
China	38%	(<i>n</i> = 47)	0%		28%	(<i>n</i> = 36)	0%	
South Korea	14%	(<i>n</i> = 17)	0%		18%	(<i>n</i> = 23)	0%	
Taiwan	8%	(<i>n</i> = 10)	0%		13%	(<i>n</i> = 17)	0%	
South East Asia	5%	(<i>n</i> = 6)	0%		14%	(<i>n</i> = 18)	0%	
Other	6%	(<i>n</i> = 8)	22%	(<i>n</i> = 17)	5%	(<i>n</i> = 7)	25%	(<i>n</i> = 19)

Table 2

Female Dysfunctional Sexual Beliefs as a Function of Ethnicity (East Asians/ Euro-Caucasians)

SDBQ	Group				<i>F</i> (1,189)	<i>p</i>	<i>eta</i> squared
	East Asians (<i>n</i> =119)		Euro-Caucasians (<i>n</i> = 72)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Sexual Conservatism	2.11	0.67	1.37	0.43	67.04	<.001	.26
Sexual Desire as a Sin	1.55	0.56	1.14	0.27	31.54	<.001	.14
Age Related Beliefs	2.28	0.62	1.82	0.51	28.74	<.001	.13
Body Image Beliefs	1.56	0.57	1.22	0.35	20.31	<.001	.10
Denying Affection	1.94	0.49	2.19	0.55	10.02	.002	.05
Primacy							
Motherhood Primacy	2.27	0.51	1.91	.51	17.62	<.001	.09

Table 3

Relationship Between Dysfunctional Sexual Beliefs and Acculturation in East Asian Women (n = 119)

SDBQ	VIA					
	Heritage		Mainstream		Years in Canada	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Sexual Conservatism	.33*	<.001	-.21	.021	-.20	.032
Sexual Desire and Pleasure as a Sin	.17	.058	-.25*	.007	-.17	.069
Age Related Beliefs	.17	.057	-.18	.051	-.16	.080
Body Image Beliefs	.15	.106	-.16	.077	-.20	.028
Denying Affection Primacy	-.19	.041	.01	.892	.07	.470
Motherhood Primacy	.17	.068	-.17	.067	-.06	.500

*p<.008

Table 4
Relationship between Dysfunctional Sexual Beliefs and Sexual Functioning in East Asian Women
(n = 119)

SDBQ	FSFI											
	Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Sexual Conservatism	-.30*	.001	-.25	.024	-.09	.438	-.17	.114	-.18	.130	-.36*	<.001
Sexual Desire and Pleasure as a Sin	-.35*	<.001	-.17	.107	-.13	.234	-.08	.449	-.19	.093	-.34*	.005
Body Image Beliefs	-.14	.110	-.15	.156	-.07	.494	-.14	.189	-.16	.176	-.46*	<.001
Denying Affection Primacy	-.13	.147	-.20	.059	-.07	.546	-.15	.156	-.43*	<.001	-.16	.194

*p < .0125

Table 5

Female Automatic Thoughts as a Function of Ethnicity (East Asians/ Euro-Caucasians)

SMQ Thoughts	Group				<i>F</i> (1,113)	<i>p</i>	<i>eta squared</i>
	East Asians		Euro-Caucasians				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
	(<i>n</i> =65)		(<i>n</i> = 51)				
Sexual Abuse Thoughts	1.64	0.47	1.53	0.49	0.75	.388	.01
Failure/ Disengagement Thoughts	1.85	0.68	1.80	0.60	0.00	.999	.00
Partner's Lack of Affection	1.59	0.56	1.39	0.42	3.78	.054	.03
Sexual Passivity and Control	1.92	0.66	1.71	0.57	1.64	.204	.02
Lack of Erotic Thoughts	2.88	1.02	2.38	0.67	5.11	.026	.04
Low Self Body Image Thoughts	2.27	0.51	2.25	.83	0.44	.511	.00

**p* <.008

Table 6

Relationship Between Automatic Thoughts and Years in Canada in East Asian Women (n = 78)

SMQ Thoughts	Years in Canada	
	<i>r</i>	<i>p</i>
Sexual Abuse Thoughts	.12	.334
Failure/ Disengagement Thoughts	-.13	.225
Partner's Lack of Affection	-.07	.571
Sexual Passivity and Control	-.04	.736
Lack of Erotic Thoughts	-.13	.275
Low Self Body Image Thoughts	.09	.466

**p* < .008

Table 7
Relationship between Automatic Thoughts and Sexual Functioning in East Asian Women (n = 116)

	FSFI											
	Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
SMQ	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Sexual Abuse Thoughts	-.01	.945	.05	.664	.08	.482	.09	.447	-.23	.055	-.11	.410
Failure/Disengagement Thoughts	-.02	.823	-.57*	<.001	-.39*	<.001	-.37*	<.001	-.35*	.002	-.48*	<.001
Partner's Lack of Affection	-.18	.051	-.17	.117	-.23	.033	-.21	.051	-.26	.026	-.24	.054
Sexual Passivity and Control	.10	.268	-.33*	.002	-.33*	.002	-.32*	.003	-.36*	.001	-.21	.099
Lack of Erotic Thoughts	-.55*	<.001	-.47*	<.001	-.28	.009	-.21	.057	-.58*	<.001	-.23	.063
Low Self Body-Image Thoughts	.13	.174	-.25	.020	-.32*	.003	-.20	.064	-.37*	.001	-.21	.094

*p < .008

Table 8
Relationship between Automatic Thoughts and Sexual Functioning in Caucasian Women (n = 68)

SMQ	FSFI											
	Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Sexual Abuse Thoughts	-.06	.649	-.33	.018	-.26	.057	-.34	.015	-.67*	<.001	-.53*	<.001
Failure/Disengagement Thoughts	-.14	.245	-.55*	<.001	-.43*	.001	-.45*	.001	-.62*	<.001	-.40	.009
Partner's Lack of Affection	-.09	.476	-.40*	.003	-.28	.038	-.43*	.001	-.59*	<.001	-.16	.308
Sexual Passivity and Control	-.02	.859	-.25	.071	-.12	.385	-.42*	.002	-.54*	<.001	-.31	.043
Lack of Erotic Thoughts	-.36*	.003	-.51*	<.001	-.37*	.004	-.23	.088	-.20	.175	-.28	.069
Low Self-Body-Image Thoughts	.051	.662	.07	.628	.08	.548	-.35*	.007	-.33	.015	.20	.190

*p < .008

Table 9
Emotions in Women: Descriptive Statistics

SMQ Emotions	Group			
	East Asians (<i>n</i> = 77)		Euro-Caucasians (<i>n</i> = 70)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Worry	.22	.11	.18	.09
Sadness	.11	.69	.11	.08
Disillusion	.04	.08	.05	.06
Fear	.06	.06	.05	.05
Guilt	.06	.06	.07	.06
Shame	.07	.07	.06	.06
Anger	.05	.06	.05	.06
Hurt	.05	.05	.06	.07
Pleasure	.19	.14	.21	.11
Satisfaction	.17	.12	.18	.11

Table 10

Relationship between Emotions and Years in Canada in East Asian Women (n = 123)

		SMQ Emotions									
		Worry	Sad	Disill- usion	Fear	Guilt	Shame	Anger	Hurt	Pleasu -re	Satisfa -ction
Years	<i>r</i>	-.20	-.09	.07	.27	-.07	-.13	.10	-.24	.01	.22
in	<i>p</i>	.089	.425	.529	.018	.572	.270	.369	.040	.928	.055
Canad											
a											

p < .005

Table 11

Male Dysfunctional Sexual Beliefs as a Function of Ethnicity (East Asians/ Euro-Caucasians)

SDBQ	Group				<i>F</i> (1,187)	<i>p</i>	<i>eta</i> squared
	East Asians (<i>n</i> =124)		Euro-Caucasians (<i>n</i> = 72)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Sexual Conservatism	1.89	0.52	1.42	0.34	38.52	<.001	.17
Female Sexual Power	2.80	0.56	2.51	0.49	9.03	.003	.05
“Macho” Belief	2.82	0.58	2.39	0.58	18.23	<.001	.09
Women’s Satisfaction	2.95	0.70	2.58	0.75	6.99	.009	.04
Restrictive Attitude	2.44	0.68	2.02	0.61	16.41	<.001	.08
Sex as Abuse of Men’s Power	2.05	0.57	1.58	0.41	30.76	<.001	.14

p<.008

Table 12

Relationship Between Sexual Beliefs and Years in Canada in East Asian Men (n = 125)

SDBQ	Years in Canada	
	<i>r</i>	<i>p</i>
Sexual Conservatism	.09	.327
Female Sexual Power	.07	.460
“Macho” Belief	-.00	.970
Women’s Satisfaction	.02	.869
Restrictive Attitude	-.03	.745
Sex as abuse of Men’s Power	.09	.313

**p* < .008

Table 13
Relationship between Dysfunctional Sexual Beliefs and Sexual Functioning in East Asian Men (n=128)

SDBQ	IIEF									
	Erectile Function		Orgasm Function		Sexual Desire		Intercourse Satisfaction		Overall Satisfaction	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Sexual Conservatism	-.30*	.022	-.40*	<.001	-.32*	<.001	-.30	.022	-.19	.054
Female Sexual Power	.03	.847	-.09	.390	-.02	.814	-.00	.996	-.15	.143
“Macho” Belief	-.25	.052	-.27	.011	-.061	.502	-.23	.073	-.34*	.001
Women’s Satisfaction	-.12	.346	-.16	.142	-.07	.455	-.23	.074	-.25	.012
Restrictive Attitude	.02	.872	-.22	.038	-.22	.014	-.02	.880	-.06	.58
Sex as abuse of Men’s Power	-.23	.080	-.30*	.004	-.19	.031	-.15	.256	-.22	.031

* $p < .008$

Table 14
Automatic Thoughts in Men: Descriptive Statistics

SMQ Automatic Thoughts	Group			
	East Asians (<i>n</i> =81)		Euro-Caucasians (<i>n</i> = 56)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Failure Anticipation Thoughts	1.73	0.47	1.64	0.47
Erection Concern Thoughts	1.94	0.66	1.94	0.83
Age and Body Related Thoughts	1.51	0.57	1.30	0.40
Negative Thoughts Toward Sex	1.50	0.52	1.48	0.38
Lack of Erotic Thoughts	2.61	0.77	2.38	0.66

Table 15

Relationship Between Automatic Thoughts and Years in Canada in East Asian Men (n = 95)

SMQ Thoughts	Years in Canada	
	<i>r</i>	<i>p</i>
Failure Anticipation Thoughts	-.02	.879
Erection Concern Thoughts	.02	.894
Age and Body Related Thoughts	-.09	.397
Negative Thoughts Toward Sex	-.26	.015
Lack of Erotic Thoughts	-.17	.103

**p* < .01

Table 16

Relationship between Automatic Thoughts and Sexual Functioning in East Asian Men (n = 117)

SMQ Thoughts	IIEF									
	Erectile Function		Orgasm Function		Sexual Desire		Intercourse Satisfaction		Overall Satisfaction	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Failure Anticipation Thoughts	-.42*	.001	-.16	.160	.26*	.005	-.47*	<.001	-.21	.043
Erection Concern Thoughts	-.39*	.003	-.24	.043	.34*	<.001	-.45*	.001	-.20	.053
Age and Body Related Thoughts	-.46*	<.001	-.32*	.003	.13	.165	-.33	.010	-.14	.174
Negative Thoughts Toward Sex	.63*	<.001	-.42*	<.001	-.05	.594	-.41*	.002	-.23	.027
Lack of Erotic Thoughts	-.39*	.002	-.47*	<.001	-.48*	<.001	-.30	.023	-.13	.201

*p < .01

Table 17

Relationship between Automatic Thoughts and Sexual Functioning in Euro-Caucasian Men (n = 68)

SMQ Thoughts	IIEF									
	Erectile Function		Orgasm Function		Sexual Desire		Intercourse Satisfaction		Overall Satisfaction	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Failure Anticipation Thoughts	-.66*	<.001	-.19	.131	-.01	.942	-.77*	<.001	-.59*	<.001
Erection Concern Thoughts	-.74*	<.001	.02	.866	-.07	.601	-.54*	<.001	-.26	.041
Age and Body Related Thoughts	-.08	.607	.09	.494	-.00	.986	-.24	.116	-.15	.244
Negative Thoughts Toward Sex	-.27	.026	-.15	.240	.11	.393	-.35*	.005	-.41*	.001
Lack of Erotic Thoughts	-.47*	.001	-.30	.016	-.16	.176	-.53*	<.001	-.27	.027

* $p < .01$

Table 18

Male Emotions as a Function of Ethnicity (East Asians/ Euro-Caucasians)

SMQ Emotions	Group				<i>F</i> (1,187)	<i>p</i>	<i>eta</i> squared
	East Asians (<i>n</i> =49)		Euro-Caucasians (<i>n</i> = 41)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Worry	.23	.14	.22	.11	0.11	.738	.00
Sadness	.07	.10	.07	.08	0.07	.788	.00
Disillusioned	.02	.04	.06	.07	7.83	.006	.08
Fear	.10	.09	.05	.06	8.77*	.004	.09
Guilt	.05	.07	.06	.07	0.78	.379	.01
Shame	.08	.07	.06	.06	1.14	.289	.01
Anger	.04	.05	.03	.05	0.45	.503	.01
Hurt	.02	.04	.02	.04	0.07	.793	.00
Pleasure	.24	.12	.24	.14	0.11	.741	.00
Satisfaction	.16	.18	.20	.11	2.39	.125	.03

**p* <.005

Table 19

Relationship between Emotions and Sexual Functioning in East Asian Men (n = 92)

		SMQ Emotions									
		Worry	Sad	Disill- usion	Fear	Guilt	Shame	Anger	Hurt	Pleasu -re	Satisfa -ction
Years	<i>r</i>	-.21	-.02	.08	.06	.06	-.02	-.04	-.08	.04	.173
in											
Canad	<i>p</i>	.050	.836	.477	.54	.593	.845	.742	.584	.725	.099
a											

p < .005

Table 20
Relationship between Emotions and Sexual Functioning in Euro-Caucasian Men (n = 73)

SMQ Emotions	IIEF									
	Erectile Function		Orgasm Function		Sexual Desire		Intercourse Satisfaction		Overall Satisfaction	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Worry	-.22	.117	.22	.068	.03	.798	-.11	.436	-.12	.347
Sad	-.15	.291	-.27	.027	-.11	.346	.002	.987	-.14	.259
Disillusion	.00	.997	-.11	.383	-.14	.236	-.33	.020	-.15	.234
Fear	-.25	.076	-.08	.504	.09	.430	-.25	.086	-.23	.057
Guilt	-.05	.743	-.09	.487	.04	.746	-.21	.140	-.23	.056
Shame	-.16	.273	-.04	.754	-.05	.680	-.26	.071	-.22	.069
Anger	-.15	.289	-.18	.146	.03	.817	-.20	.175	-.16	.184
Hurt	-.29	.157	-.29	.071	.09	.581	-.41	.036	-.38	.015
Pleasure	.35	.013	.11	.372	-.01	.965	.44*	.001	.44*	<.001
Satisfaction	.37	.008	.21	.084	.06	.610	.42*	.002	.44*	<.001

**p* < .005

References

- Abramson, P. R., & Imai-Marquez, J. (1982). The Japanese-American: A cross cultural, cross-sectional study of sex guilt. *Journal of Research in Personality*, 16, 227-237.
doi:10.1016/0092-6566(82)90078-2
- Ahrold, T. K., & Meston, C. M. (2008). Ethnic differences in sexual attitudes of U.S. college students: Gender, acculturation, and religiosity factors. *Archives of Sexual Behavior*, 39, 190-202. doi:10.1007/s10508-008-9406-1
- Andersen, B. L., & Cyranowski, J. M. (1994). Women's sexual self-schema. *Journal of Personality and Social Psychology*, 67, 1079-1100. doi:10.1037/0022-3514.67.6.1079
- Andersen, B. L., Cyranowski, J. M., & Espindle, D. (1999). Men's sexual self-schema. *Journal of Personality and Social Psychology*, 76, 645-661. doi:0.1037/0022-3514.76.4.645
- Avis, N. A., Xinhua, Z., Johannes, C. B., Ory, M., Brockwell, S., & Greendale, A. (2005). Correlates of sexual function among multi-ethnic middle-aged women: results from the Study of Women's Health Across the Nation (SWAN). *The Journal of the North American Menopause Society*, 12, 385-398. doi:10.1097/01.GME.0000151656.92317.A9
- Bach, A. K., Barlow, D. H. & Wincze, J. P. (2004). The enhancing effects of manualized treatments for erectile dysfunction among men using sildenafil: A preliminary investigation. *Behavior Therapy*, 35, 55-73. doi: 10.1016/S0005-7894(04)80004-2
- Basson, R. (2001). Using a different model for female sexual response to address women's problematic low sexual desire. *Journal of Sex and Marital Therapy*, 27, 395-405.
doi:10.1503/cmaj.1020174.
- Beck, A. T. (1964). Thinking and depression: II. Theory and therapy, *Archives of General Psychiatry*, 10, 561-571. doi: 10.1001/archpsyc.1964.01720240015003
- Bergeron, S. B., Binik, Y. M., Khalife, S., Pagidas, K., Glazer, H. I., et al. (2001) A randomized comparison of group cognitive behavioral therapy, surface electromyographic feedback

- and vestibuloectomy in the treatment of dyspareunia from vulvar vestibulitis. *Pain*, 91, 297-306. doi:10.1016/S0304-3959(00)00449-8
- Borg, C., de Jong, P., J. & Schultz, W. W. (2011). Vaginismus and dyspareunia: Relationship with general and sex-related moral standards. *Journal of Sex Medicine*, 8, 223-231. doi: 10.1111/j.1743-6109.2010.02080.x
- Borg, C., Peters, M. L., Schultz, W. W. & Jong, P. J. (2012). Vaginismus: Heightened harm avoidance and pain catastrophizing cognitions. *Journal of Sex Medicine*, 9, 558-567. doi: 10.1111/j.1743-6109.2011.02535.x
- Brotto, L., Basson, R. & Luria, M. (2008). A mindfulness-based group psychoeducational intervention targeting sexual arousal disorder in women. *Journal of Sex Medicine*, 5, 1646-1659. doi: 10.1111/j.1743-6109.2008.00850.x
- Brotto, L. A., Chik, H., Ryder, A. G., Gorzalka, B. B., & Seal, B. N. (2005). Acculturation and sexual function in Asian women. *Archives of Sexual Behavior*, 34, 613-626. doi:10.1007/s10508-005-7909-6
- Brotto, L.A. & Heiman, J. R. (2007). Mindfulness in sex therapy: Applications for women with sexual difficulties following gynecologic cancer. *Sexual and Relationship Therapy*, 22, 3-11. doi:10.1080/14681990601153298
- Brotto, L. A., Heiman, J. R., Goff, B., Greer, B., Lentz, G. M. & Swisher, E. et al. (2008b). A psychoeducational intervention for sexual dysfunction in women with gynecological cancer. *Archives of Sexual Behavior*, 37, 317-329. doi: 10.1007/s10508-007-9196-x
- Brotto, L., Seal, B. N. & Rellini, A. (2012). Pilot study of brief cognitive behavioral versus mindfulness-based intervention for women with sexual distress and a history of childhood sexual abuse. *Journal of Sex and Marital Therapy*, 38, 1-27. doi:10.1080/0092623X.2011.569636

- Brotto, L. A., Woo, J. S. T., & Gorzalka, B. B. (2011) Differences in sexual guilt and desire in East Asian and Euro-Canadian men. *Journal of Sex Research*, 0, 1-9.
doi:10.1080/00224499.2011.618956
- Cado, S., & Leitenberg, H. (1990). Guilt reactions to sexual fantasies during intercourse. *Archives of Sexual Behavior*, 19, 49-63. doi:10.1007/BF01541825
- Cain, V. S., Johannes, C. B., Avis, N. E., Mohr, B., Schocken, M., Skurnick, J. & Ory, M. (2003). Sexual functioning and practices in a multi-ethnic study of midlife women: Baseline results from SWAN. *The Journal of Sex Research*, 40, 266-276.
doi:10.1080/00224490309552191
- Carvalho, J. & Nobre P. (2010a). Predictors of women's sexual desire: The role of psychopathology, cognitive-emotional determinants, relationship dimensions, and medical factors. *Journal of Sex Medicine*, 7, 928-937. doi:10.1111/j.1743-6109.2009.01568.x
- Carvalho, J. & Nobre, P. (2010b). Sexual desire in women: An integrative approach regarding psychological medical and relationship dimensions. *Journal of Sex Medicine*, 7, 1807-1815. doi:10.1111/j.1743-6109.2010.01716.x
- Carvalho, J. and Nobre, P. (2011a). Predictors of men's sexual desire: The role of psychological, cognitive-emotional, relational, and medical factors. *Journal of Sex Research*, 48, 254-262. doi: 10.1080/00224491003605475
- Carvalho, J., and Nobre, P. (2011b). Biopsychosocial determinants of men's sexual desire: Testing and integrative model. *Journal of Sexual Medicine*, 8, 754-763. doi: 10.1111/j.1743-6109.2010.02156.x
- Carvalho, J., and Nobre, P. (2011c). Gender differences in sexual desire: How do emotional and relationship factors determine sexual desire according to gender. *European Journal of Sexology* 20, 207-211. doi:10.1016/j.sexol.2011.08.009.

- Cuntim, M. & Nobre, P. (2011) The role of cognitive distraction on female orgasm. *Sexologies: European Journal of Sexology*, 20, 212-214. doi:10.1016/j.sexol.2011.08.001
- Cyranowski, J. M., & Andersen, B. L. (1998). Schemas, sexuality, and romantic attachment. *Journal of Personality and Social Psychology*, 74, 1364-1379. doi:10.1037/0022-3514.74.5.1364
- Derogatis, L. R. & Melisaratos, N. (1979). The DSFI: A multidimensional measure of sexual functioning. *Journal of Marital Therapy*, 5, 244-281. doi:10.1080/00926237908403732
- Frenier, M. D. & Mancini, K. (1996). Vietnamese women in a Confucian setting: The causes of the initial decline in the status of East Asian women. In K. Barry (Ed.), *Vietnam's women in transition* (pp. 21-37). London: MacMillan.
- Hawton, K., Catalin, J. & Fagg, J. (1991). Low sexual desire: Sex therapy results and prognostic factors. *Behavior Research and Therapy*, 29, 217-224. doi: 10.1016/0005-7967(91)90111-F
- Heiman, J. R. & LoPiccolo, J. (1983). Clinical outcome of sex therapy. *Archives of General Psychiatry*, 40, 443-449. doi:10.1001/archpsyc.1983.01790040097013
- Heimain, J. R. & Meston, C. M. (1997). Empirically validated treatment for sexual dysfunction. *Annual Review of Sex Research*, 8, 148-194.
- Hurlbert, D. F. (1993b). Orgasm consistency training in the treatment of women reporting hypoactive sexual desire: An outcome comparison of women-only groups and couples-only groups. *Journal of Behavior Therapy and Experimental Psychiatry*, 24, 3-13. doi:10.1016/0005-7916(93)90003-F
- Hurlbert, D.F. & Apt, C. (1995). The Coital alignment technique and directed masturbation: a comparative study on female orgasm. *Journal of Sex and Marital Therapy*, 21, 21-29. doi:10.1080/00926239508405968

- van Lankveld, J. D. M., & Grotjohmann, Y. (2000). Psychiatric comorbidity in heterosexual couples with sexual dysfunction assessed with the Composite International Diagnostic Interview. *Archives of Sexual Behavior*, 29, 479-498. doi: 10.1023/A:1001995704034
- van Lankveld, J. J., Kuile, M. M., de Groot, H. E. et al (2006). Cognitive behavioral therapy for women with lifelong vaginismus: A randomized waiting-list controlled trial of efficacy. *Journal of Consulting and Clinical Psychology*, 74, 168-178. doi: 10.1037/0022-006X.74.1.168
- Laumann, E. O., Nicolosi, A., Glasser, D.B., Paik, A., Gingell, C., Moreira, E., & Wang, T. (2005) Sexual problems among women and men aged 40-80: Prevalence and correlates identified in the Global Study of Sexual Attitudes and Behaviors. *International Journal of Impotence Research*, 17, 39-57. doi:10.1038/sj.ijir.3901250
- Laurent, S. M. & Simons, A. D. (2009). Sexual dysfunction in depression and anxiety: Conceptualizing sexual dysfunction as part of an internalizing dimension. *Clinical Psychology review*, 29, 573- 585. doi:10.1016/j.cpr.2009.06.007
- Masheb, R. M., Kerns, R. D., Lozano, C. et al (2009). A randomized clinical trial for women with vulvodynia: cognitive behavioral therapy vs supportive psychotherapy. *Pain*, 141, 31-40. doi 10.1016/j.pain.2008.09.031
- Masters, W. H., & Johnson, V. E. (1970). *Human sexual inadequacy*. Boston: Little, Brown.
- McCabe, M. (2001). Evaluation of a Cognitive Behavior Therapy Program for People with Sexual Dysfunction. *Journal of Sex and Marital Therapy*, 27, 259-271. doi:10.1080/009262301750257119
- Meston, C. M., & Ahrold, T. (2008). Ethnic, gender and acculturation influences on sexual behaviors. *Archives of Sexual Behavior*, 39, 179-189. doi:10.1007/s10508-008-9415-0
- Meston, C. M., Levin, R. J., Siposki, M. L. et al (2004). Women's orgasm. *Annual Review of Sex Research*, 15, 173-257.

- Meston, C. M., Trapnell, P. D. & Gorzalka, B. B. (1996). Ethnic and gender differences in sexuality: Variations in sexual behavior between Asian and non-Asian university students. (1996). *Archives of Sexual Behavior*, 25, 33-72. doi:10.1007/BF02437906
- Meston, C. M., Trapnell, P. D., & Gorzalka, B. B. (1998). Ethnic, gender, and length of residency influences on sexual knowledge and attitudes. *Journal of Sex Research*, 35, 176-188. doi:10.1080/0022449980955193
- Meyer-Bahlberf, F. L. & Dolezal, C. (2007). The female sexual function index: A methodological critique and suggestions for improvement. *Journal of Sex and Marital Therapy*, 33, 217-224. doi:10.1080/00926230701267852
- Mosher, D. L., & Cross, H. J. (1971). Sex guilt and premarital sexual experiences of college students. *Journal of Consulting and Clinical Psychology*, 36, 27-32. doi: 10.1037/h0030454
- Nelson, A. L., & Purson, C. (2011). Non-erotic thoughts, attentional focus, and sexual problems in a community sample. *Archives of Sexual Behavior*, 40, 395-406. doi: 10.1007/s10508-010-9693-1
- Ng, M. L. & Lau, M. P. (1990). Sexual attitudes in the Chinese. *Archives of Sexual Behavior*, 19, 373-388. doi: 10.1007/BF01541932
- Nobre, P. J. (2009). Determinants of sexual desire problems in women: Testing a cognitive-emotional model. *Journal of Sex and Marital Therapy*, 35, 360-377. doi:10.1080/00926230903065716
- Nobre, P. J. (2010). Psychological determinants of erectile dysfunction: Testing a cognitive-emotional model. *Journal of Sex Medicine*, 7, 1429-1437. doi:10.1111/j.1743-6109.2009.01656.x

- Nobre, P. & Pinto-Gouveia, J. (2000). Erectile dysfunction: An empirical approach based on Beck's cognitive theory. *Sexual and Relationship Therapy, 15*, 351-366. doi: 10.1080/14681990020007201
- Nobre, P. J. & Pinto-Gouveia, J. (2003). Sexual modes questionnaire: Measure to assess the interaction among cognitions, emotions, and sexual response. *Journal of Sex Research, 40*, 368-382. doi:10.1080/00224490209552203
- Nobre, P. J. & Pinto-Gouveia, J. (2006a). Dysfunctional sexual beliefs as vulnerability factors for sexual dysfunction. *The Journal of Sex Research, 43*, 69-75. doi:10.1080/00224490609552300
- Nobre, P. J. & Pinto-Gouveia, J. (2006b). Emotions during sexual activity: Differences between sexually functional and dysfunctional men and women. *Archives of Sexual Behavior, 35*, 491-499. doi:10.1007/s10508-006-9047-1
- Nobre, P. J., & Pinto-Gouveia, J. (2008a). Cognitions, emotions, and sexual response: Analysis of the relationship among automatic thoughts, emotional responses, and sexual responses. *Archives of Sexual Behavior, 37*, 652-661. doi:10.1007/s10508-007-9258-0
- Nobre, P. J. & Pinto-Gouveia, J. (2008b). Cognitive and emotional predictors of female sexual dysfunctions: Preliminary findings. *Journal of Sex and Marital Therapy, 34*, 325-342. doi:10.1080/00926230802096358
- Nobre, P. J., & Pinto-Gouveia, J. (2008c). Differences in automatic thoughts presented during sexual activity between sexually functional and dysfunctional men and women. *Cognitive Therapy and Research, 32*, 37-39. doi:10.1007/s10608-007-9165-7
- Nobre, P. J., & Pinto-Gouveia, J. (2009a). Cognitive schemas associated with negative sexual events: A comparison of men and women with and without sexual dysfunction. *Archives of Sexual Behavior, 38*, 842-851. doi:10.1007/s10508-008-9450-x

- Nobre, P. J., & Pinto-Gouveia, J. (2009b). Questionnaire of cognitive schema activation in sexual context: A measure to assess cognitive schemas activated in unsuccessful sexual situations. *Journal of Sex Research*, 46, 425-437. doi: 10.1080/00224490902792616
- Nobre, P. J., Pinto-Gouveia, J., & Gnomes, F. A. (2003). Sexual dysfunctional beliefs questionnaire: An instrument to assess sexual dysfunctional beliefs as vulnerability factors to sexual problems. *Sexual and Relationship Therapy*, 18, 171-204. doi: 10.1080/1468199031000061281
- Okazaki, S. (2002). Influences of culture on Asian American's sexuality. *The Journal of Sex Research*, 39, 34-41. doi: 10.1080/00224490209552117
- Rosen, R. C., Brown, C., Heiman, J., Leiblum, S., Meston, C., Shabsigh, R., Ferguson, D. & D'Agostino, R., Jr. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy*, 26, 191-208. doi: 10.1080/009262300278597
- Rosen, R.C., Riley, A., Wagner, G., Osterloh, I. H., Kirkpatrick, J., & Mishra, A. (1997). The International Index of Erectile Function (IIEF): A multidimensional scale for assessment of erectile dysfunction. *Urology*, 49, 822-830. doi:10.1016/S0090-4295(97)00238-0
- Ryder, A. G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychology*, 79, 49-65. doi:10.1037/0022-3514.79.1.49
- Statistics Canada. (2010). Visible Minority Groups. Retrieved April 20, 2011, from <http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/index-eng.cfm>
- Sun, X., Li, C., Jin, L., Fan, Y. & Wang, D. (2011). Development and validation of Chinese version of Female Sexual Function Index in a Chinese population – a pilot study. *Journal of Sex Medicine*, 8, 1101-1111. doi: 10.1111/j.1743-6109.2010.02171.x

- Trudell, G., Marchand, A., Ravart, M., Aubin, S., Turgeon, L. & Fortier, P. (2001). The effect of cognitive behavioral group treatment program on hypoactive sexual desire disorder in women, *Sexual and Relationship Therapy*, 16, 145-164. doi: 10.1080/14681990120040078
- Ward, E. & Ogden, J. (1994). Experiencing vaginismus: Sufferers' beliefs about causes and effects. *Sexual and Relationship Therapy*, 25, 434-446. doi:10.1080/14681994.2010.518724
- Woo, J. S. T., & Brotto, L. A. (2008). Age of first sexual intercourse and acculturation: Effects on adult sexual responding. *Journal of Sex Medicine*, 5, 571-582. doi: 10.1111/j.1743-6109.2007.00740.x
- Woo, J. S. T., Brotto, L. A., & Gorzalka, B. B. (2010). The role of sex guilt in the relationship between culture and women's sexual desire. *Archives of Sexual Behavior*, 40, 385-394. doi:10.1007/s10508-010-9609-0
- Woo, S. T., Brotto, L. A., & Gorzalka, B. B. (2011). The relationship between sex guilt and sexual desire in a community sample of Chinese and Euro-Canadian Women. *Journal of Sex Research*, 49, 290-298. DOI: 10.1080/00224499.2010.551792
- Yule, M., Davison, J. & Brotto, L. (2011). The international index of erectile function: A methodological critique and suggestions for improvement. *Journal of Sex and Marital Therapy*, 37, 255-269. doi:10.1080/0092623X.2011.582431