THE HEALTH PSYCHOLOGY OF SEXUAL FUNCTIONING

THE METHODOLOGY FOR MEASURING SEXUAL HEALTH, AND ITS MOST IMPORTANT PREDICTORS IN THE FRAME OF A BIOPSYCHOSOCIAL PARADIGM

Theses for doctoral (Ph.D.) dissertation

Supervisor: Prof. Dr. Attila Oláh

ELTE PPK
BUDEPEST, 2015.
OBJECTIVES

“We MUST understand love; we must be able to teach it, to create it, to predict it, or else the world is lost to hostility and suspicion.”

/Abraham Maslow/

Introduction

Intimate relationships are significant factors in a person’s well-being, physical and mental health as well as effective buffers against everyday stressors (Narciso, 2001; Ferreira, Narciso and Novo, 2012). Maintaining sexual desire in intimate relationships is an essential component for both relationship satisfaction and the longevity of the relationship (Impett et al., 2008; McCarty et al., 2006).

Sexuality and personality are so tightly interwoven during development that they cannot be approached as separate, independent entities. Therefore the term psychosexual may be used to describe both the development of personality and sexuality – the latter being more than just the feeling and behaviors linked with sexuality, and it cannot be narrowed down to the different phases of libido as the Freudian theory suggests. The complex influence of sexuality on our lives may be clearly witnessed in phenomena when certain non-sexual needs such as the need to be dependent, releasing aggression or the feeling of power and dominance are satisfied through sexual behavior (Sadock, 2005).

Based on clinical experiences, Kernberg’s psychoanalytic theory (1980) describes a continuum with one end being the narcissistic personality who can only satisfy his socially isolated and sexual drives through a polymorph pervert masturbation fantasy. The other end of the continuum is the normal personality who is able to integrate sexuality with affectionateness and with a stable, mature object-relation (Kernberg, 1980).

Our sexual drive is both innate and varies in intensity with each person. Most forms of sexual behavior however, are learnt. Early experiences, mainly those accumulated during puberty and early adolescence, have a deep, imprinting effect on our adult sexuality (Sadock, 2005).

These multiplicative influences on the developing sexual self are illustrated in Figure 1 below (Kilmer & Shahinfar, 2006).
Figure 1. Examples of environmental factors influencing sexual development in childhood (Kilmer and Shahinfar, 2006)

Our sexual socialization occurs in the context of a certain culture, tightly woven into its fabric – such as the theory of Kilmer and Shahinfar (2006) describes. In their immense work titled Encyclopedia of Sex and Gender, Men and Women in the World’s Cultures, Carol and Melvin Ember (2003) describes 82 different cultures’ relation to sexuality via gender roles, attitudes, stereotypes, socialization, male-females relations, homosexuality and similar aspects. The Hungarian sexual culture is treated between the Hopi colonies living in northeast Arizona and the itamul tribe of Papua New Guinea. Openly discuss sexuality is difficult for most Hungarians due to various historical factors like the “conservative cultural traditions, Catholicism and social moral” (Ember & Ember, 2003, p. 482). They point out the rapid changes in sexual habits during the past couple of decades, but also emphasize the fact that the social and political views of homosexuality is one of the most incongruently treated areas of sexuality. The authors also quote such phrases as “elvesz” (to buy a woman)” – associated with buying someone for money – and the proverb “money is the best when counted, a woman is best when beaten” (Ember & Ember, 2003).

Only a narrow scope of sexual stimuli can be considered as primarily and inherently sexual, therefore most key stimuli become arousal triggering and intensifying factors only through life experiences (Hoffmann, Peterson & Garner, 2012). Gaining such experiences may happen by merely being exposed to certain stimuli (such as the influence of the media), or through social learning or even verbal interactions.

According to many, the fact that computers have become primary socialization agents, overtaking televisions’ babysitter function, plays an important role in the loosening of
bonds between humans. One-night stands have become more prominent, a phenomenon the British titled “Sexual Hookup Culture”. The increasing number of these short-lived and non-committed sexual relationships is observed in the western adolescence socio-cultural milieu as well as in the case of both male and female adults. The traditional forms of courting have significantly changed or even completely vanished during the past decades, while the preference of committed romantic relationships has also been on the decline (Bogle, 2008).

More and more studies focus on the impact of online adult content on the developing self of the adolescent, such as porn not linking emotions with sexuality thus promoting relationships that lack emotional involvement, and drastically distorts how young men view women (Flood, 2007).

As for its negative consequences, it’s been shown that after watching porn movies men: a) are more likely to believe that female victims are also responsible for the sexual violence committed against them; b) more likely to agree with sexist attitudes; c) are less likely to feel in love with their partner; d) less likely to find their partner attractive (Bridges & Bergner, 2009). Moreover, those consuming porn on a regular basis are less satisfied with their sex life (Bridges, 2010).

Presenting aggression as an accepted aspect of sexual acts is yet another negative aspect of porn. By the content analysis of the 50 most popular porn movies, researchers have found that nearly half of the 304 scenes analyzed contained verbal aggression, while 88% of the same scenes contained physical aggression. 70% of all violent acts were committed by males, directed against females in 87% of the cases. The women’s reactions were either neutral or even showed pleasure. In only 5% of violent cases did the female partner show an actual negative reaction. The scenes in such movies clearly differ from women’s “script” of pleasurable sex (Wosnitzer & Bridges, 2007).

Whether one is satisfied with his or her sex life has a significant impact on the person’s sense of quality of life (Wylie & Mimoun, 2009).

Besides personality traits, one’s attachment style also influences his/her sexuality in several ways (e.g. the enjoyment of sex: Schachner & Shaver, 2004; jealousy: Birnbaum, 2007; behavior following breaking up: Davis, Shaver & Vernon, 2003). The hypothesis that an anxious attachment style is linked to unfaithfulness in relationships as well as the use of condom has mainly been proved to be true for women, while the age at which women had their first sexual experience was also influenced by their attachment style. In the case of men however, such correlations between sexual behavior and attachment style have not been found (Bogaert & Sadava, 2002).

Human sexuality is highly complex and multifaceted thus also highly vulnerable. Barlow’s 2007 model discusses the cognitive and affective processes of sexual health versus sexual dysfunction in the framework of a biopsychosocial paradigm – which also serves as the explanatory framework of my own line of studies (Figure 2).
**METHODOLOGY**

**Short description of the studies**

The aim of these studies is to uncover sexual problems in the Hungarian population, especially among the young, the adaptation of adequate tools as well as focusing on preventive and protective factors that help maintain lasting and satisfying sexual functioning. This series of studies consists of the following parts:

1. **Study: Repeating a study originally conducted ten years ago on sample of young females regarding their sex life (with gender and age matching)**

The aim of the first part of my research is to gauge the changes in the sexual behavior, knowledge and attitudes of young Hungarian females following a ten-year time period. Due to the globalization, the extremely large number of various cultural trends, changes and stimuli (such as **the growing acceptance of casual sexual relationships**; e.g. Garcia et al., 2012; **the strengthening feminist discourse**; e.g. Hayfield & Clarke, 2012; **the spreading of internet porn and its effects**; e.g. Attwood & Smith, 2014; Bridges, 2010; **the explicit presentation of sexual acts in the media**; e.g. Attwood, 2005; **the popularization of best selling books and films on sexuality**; e.g. Tambling, 2002; **the sexualization of culture and the popularity of BDSM**; e.g. Weinberg et al., 2010; **very strong emphasis on the female body and its objectifying**; e.g. Maguire & Stanway, 2008; **the appearance of new forms of relationships**, such as sex-buddies; e.g. Furman and Shaffer, 2011; Wentland & Reissing, 2011; Jonason & Richardson, 2011; etc.) reach us basically without any delay. These influences may help or hinder the flourishing of healthy female sexuality, thus based on our hypotheses I expect liberalization of behavior and attitudes, and the erodation of the strength and numbers of committed relationships.
The data recording in 2002 (203 subjects) and in 2011-2013 (1164 subjects) involved the same paper and pencil test containing sensitive items about sexuality. The 38 items of the ELTE Sexual Behavior Questionnaire (Marián & Urbán, 2002) consisting of ordinal, nominal variables and interval scales was developed previously as part of a larger research study. The main scales of the test include such topics as intimate relationships, the frequency and quality of sex, the satisfaction with one’s sex life, the initiation-rejection and communication aspects, sexual dysfunctions and contraception, the tendency for asking for help, fears about sexuality, and various causes and knowledge of erectile dysfunction (Marián & Urbán, 2002).

Based on the proper statistical analysis (Mann-Whitney test, two sample t-test and z-test, as well as Bonferroni correction), the results from the hypotheses organized into eight distinct blocks can be summed up as follows: The erosion of intimate relationships (a decrease in their numbers) was not correlated with the increase in the number of casual relationships, the increased knowledge about sexuality (e.g. health protecting behavior) and liberalization (e.g. fantasies, and oral sex) were not correlated with the satisfaction with sex life, neither with its quality (e.g. sexual acts and foreplay have become shorter and fewer).

2. Study: Adaptation of sexual psychology tests

For both research and sex therapy, there is a need for discrete, short and reliable tests that can effectively replace physiological measures. As part of my dissertation, the following tests were adapted on a sample of university students in 2011-2013:

- **Female Sexual Function Index** (FSFI, Rosen et al., 2000);
- **International Index of Erectile Function** (IIEF, Rosen et al., 1997);
- **Sexual Exitacion and Inhibition Index** (SESII-W/M, Milhausen et al., 2009);
- **Sexual Arousal and Desire Inventory** (SADI, Toledo & Pfaus, 2006);
- **Women's Sexual Self-Schema Scale** (WSSSS, Andersen & Cyranowski, 1994);
- **Men's Sexual Self-Schema Scale** (MSSSS, Andersen, Cyranowski & Espindle, 1999);
- **Questionnaire of Cognitive Schema Activation in Sexual Context** (QCSASC, Nobre & Pinto-Gouveia, 2000);
- **Questionnaire of Cognitive Schema Activation in Sexual Context** (QCSASC, Nobre & Pinto-Gouveia, 2000);
- **Sexual Dysfunctional Beliefs Questionnaire** (SDBQ, Nobre & Pinto-Gouveia, 2000);
- **Sexual Dysfunctional Beliefs Questionnaire** (SDBQ, Nobre & Pinto-Gouveia, 2000);
- **Passionate/Companionate Love Item** (Regan, 2006).

As a result of confirmative and explorative factor analysis (factor models and indices of match), and consistency studies (Cronbach alpha values), the above tests were shown to be reliable and adequate tools on the Hungarian sample.
3. Study: The impacts of early experiences and the role of personality on sexual functioning

The study of the link between personality and sexuality has a long history (e.g. Freud considered the role of sexuality as a central factor for both the development and the functioning of personality, while in 1976 Eysenck published a book on the topic, titled *Sex and Personality*) from which some long-term conclusions about understanding sexual behavior and the treatment of sexual dysfunctions can be drawn. Among other factors, the *Big Five Inventory* (BFI; John & Srivastava, 1999) was chosen because of its Openness scale (which shows a correlation with one’s absorption ability, an important trait in sexuality), while the *Zuckerman-Kuhlman Personality Questionnaire* (ZKA-PQ; Aluja, Kuhlman & Zuckerman, 2010) provided extra measures for aggression, activity level and sensorial experience seeking. We used the Revised Adult Attachment Scale (RAAS; Collins, 1996) to measure the effects of early childhood experiences. Recently considered to be an important factor influencing sexual functioning, the trait of narcissism was measured with the *Pathological Narcissism Inventory* (PNI; Pincus et al., 2009).

Corrected with the Bonferroni correction, the correlation matrix has shown the expected, although weak correlation (p<0.01; r=0.17-0.24) between sexual functioning and the traits of neuroticism (BFI and ZKA-PQ), activity, experience seeking and aggression (ZKA-PQ). The two strongest links – anxious attachment style in case of women, and the trait of extraversion in case of men – were further investigated.

Based on the regression analysis carried out on the female sample, the only reliable predictor of female sexual responsiveness as measured by the *Female Sexual Function Index*, was an anxious adult attachment style, which explains 9.5% of the total variance (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>Non-standardized coefficient</th>
<th>Standardized coefficient</th>
<th>t</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.639</td>
<td>0.348</td>
<td>13.329</td>
<td></td>
</tr>
<tr>
<td>Attachment (Anxiety)</td>
<td>-0.535</td>
<td>0.136</td>
<td>-3.923</td>
<td>0</td>
</tr>
</tbody>
</table>

*Table 1. Female sexual responsiveness as measured by the Female Sexual Function Index, could only be significantly predicted by an anxious adult attachment style*

As the result of the regression analysis carried out on our male sample, the only significant predictor of male sexual functioning turned out to be the extraversion scale of the BFI, explaining 26.1% of the total variance (Table 2).

<table>
<thead>
<tr>
<th></th>
<th>Non-standardized coefficient</th>
<th>Standardized coefficient</th>
<th>t</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.423</td>
<td>0.736</td>
<td>1.934</td>
<td>0.067</td>
</tr>
<tr>
<td>BFI Extraversion</td>
<td>0.613</td>
<td>0.225</td>
<td>2.725</td>
<td>0.013</td>
</tr>
</tbody>
</table>

*Table 2. Male sexual functioning as measured by the International Function Index, was only significantly predicted by BFI’s extraversion scale*

In conclusion, the strongest predictor of sexual functioning was an *anxious attachment style* for females, and the BFI’s *extraversion* scale for males.
4. Study: Exploring the relationship between a healthy sexuality and indices of well-being

Our fourth empirical study analyzes sexual functions in relation with potential protective factors (as measured by previously adapted tests) that can appear as causes as well as consequences regarding intimacy.

Most often the negative effects of sexual dysfunctions on a person’s well-being have been studied: for example, a female who’s unsatisfied with her sex life also shows a lower level of general well-being. Switching the direction of the relation however, emotional well-being and the quality of the relationship may have a stronger effect on sexual functioning than aging. Our study examines the relationship between sexual functioning and well-being through a general well-being index as well as through the affective (PANAS, Positive and Negative Affect Scale - Trait; Watson et al., 1988), the appraisal (SWLS, Subjective Well-being Life Satisfaction; Diener et al., 1985) aspects of well-being, through the sense of coherence (SOC, Sense of Coherence Scale; Antonovsky, 1993) and mindfulness (MAAS, Mindful Attention Awareness Scale; Brown and Ryan, 2003).

Among the dimensions of female sexual functioning, only the ability for orgasm showed significant but weak correlation with the well-being main component (p<0.01; r=0.19) after the Bonferroni correction. Male sexual functioning however was moderately correlated with general well-being (p<0.01; r=0.40), as was his satisfaction with his sex life (p<0.01; r=0.39). The correlation matrix also allowed us to analyze the impacts of separate components.

We used regression analysis (stepwise) to discover the extent to which sexual functioning (FSFI, IIEF), sexual arousal (SADI) and sexual excitation/inhibition can predict general well-being.

In the case of women, we found significant negative correlations between well-being and the Negative/aversive scale of SADI, the Inhibiting cognition-disturbing thoughts scale of SESII, the Sexual arousability scale of SESII, and the Motivation scale of SADI; and a positive correlation with the Physiological scale of SADI. These variables in total account for 23% of variance in female subjective well-being.

In case of men, we found significant negative correlation between their well-being and the Inhibiting cognition-disturbing thoughts scale of SESII, while positive correlation were observed with the Positive/appraisal scale of SADI. These two variables account for 31.5% of total variance.

5. Study: Mediation analyses: the impact an anxious attachment style and extraversion inflicts on well-being as mediated by female and male sexual functioning

According to the results of our 3. study, the strongest predictor of female sexual functioning is an anxious attachment style, while it is extraversion for men. Our 4. study showed the significant impact sexuality has on the well-being of both men and women. In this mediation analysis, I looked to find out whether extraversion and attachment style impact well-being via sexual functioning.
Table 3. Significant correlations are highlighted by bold red color
(Significance levels: * p<0.05; ** p<0.01)

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator variable</th>
<th>Dependent variable</th>
<th>IV’s effect on MV</th>
<th>MV’s effect on DV</th>
<th>Direct effect</th>
<th>Indirect (mediator) effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxious attachment</td>
<td>Sexual function (female)</td>
<td>Life satisfaction</td>
<td>-0.2828**</td>
<td>0.2567**</td>
<td>-0.1693*</td>
<td>-0.0726</td>
<td>-0.2419**</td>
</tr>
<tr>
<td>Anxious attachment</td>
<td>Sexual function (female)</td>
<td>Positive affect</td>
<td>-0.2828**</td>
<td>0.0462</td>
<td>-0.1519*</td>
<td>-0.0131</td>
<td>-0.1649*</td>
</tr>
<tr>
<td>Anxious attachment</td>
<td>Sexual function (female)</td>
<td>Negative affect</td>
<td>-0.2828**</td>
<td>-0.0525</td>
<td>0.3283**</td>
<td>0.0148</td>
<td>0.3431**</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Sexual function (male)</td>
<td>Life satisfaction</td>
<td>0.4328**</td>
<td>0.2210*</td>
<td>0.2640*</td>
<td>0.0956</td>
<td>0.3597**</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Sexual function (male)</td>
<td>Positive affect</td>
<td>0.4448**</td>
<td>0.2118*</td>
<td>0.5406**</td>
<td>0.0942</td>
<td>0.6348**</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Sexual function (male)</td>
<td>Negative affect</td>
<td>0.4448**</td>
<td>-0.1572</td>
<td>0.3263**</td>
<td>-0.0699</td>
<td>-0.3962**</td>
</tr>
</tbody>
</table>

Significant mediating effects enhanced by red color in Table 3 show the correlation between anxious attachment style and life satisfaction as mediated by sexual functions in case of women (p<0.01; r=0.26). In the case of men, the table shows the correlation between extraversion and life satisfaction (p<0.05; r=0.22) as well as the correlation between extraversion and positive affect (p<0.05; r=0.21).

Confirming the results of our study, the mediator analysis have shown that in case of women sexual functioning is a significant mediator variable between an anxious attachment style and well-being. Sexual functioning is also a significant mediator between extraversion and the affective and cognitive aspects of well-being in case of men.

6. Study: Studying the relationships between two types of love and sexual functioning on a female and male sample

The relation between sexuality and love has been described by several theories. Both by definition and intuition, one would expect a higher level of sexual activity in the case of passionate love. Looking at this relation through a scientific perspective, love can be considered as a sexually simulative psychological factor (Kaplan, 1995), thus different types of love affect the various aspects of one’s sex life in different ways.

According to physiological measures, the experience of passionate love – providing a deeper sensory and emotional involvement – results in increased emotional and physical intensity in sexuality for both genders (Graziottin, 2004).

Testing these results require the measurement of the various aspects of sexual functioning (e.g. desire, subjective experience, enjoyment) in the relation of passionate and companionate love.
We measured passionate and companionate love via two one-item tools, scoring from 1 through 9. 1. To what extent have you felt passionate love toward your partner lately? 2. To what extent do you feel caring and tender love toward your partner? (Regan, 2006)

Analyzing the relationship between the love items and sexual functioning, we can conclude that for both men and women there is a strongly significant and at least moderately high correlation between the cumulated sex items and both types of love (for women: p<0.01; r_pass.=0.40 and r_compan.=0.37; for men: p<0.01; r_pass.=0.64 és r_compan.=0.56). For both genders, passionate love had strongly significant correlation with a larger number of scales than companionate love. What is interesting however is that correlation between sex and love is higher across all scales for men than for women.

Looking at the separate items of female sexual functioning, all indices showed strongly significant weak/moderate correlation with passionate love (p<0.01; r=0.27-0.44), while for men, excluding sexual arousal and dysfunctions of orgasm (which lost their significance after the Bonferroni correction), the other scales showed at least moderate but more often high correlation (p<0.01; r=0.52-0.79). We’d like to point out the strong correlation (r_pass.=0.79; p<0.01) of the Enjoyment and frequency scale with passionate love, while the correlation of companionate love with sexual desire lost its significance after the correction. It’s also interesting to point out that while for men compared to companionate love, passionate love had a higher correlation with sexual functioning in all cases, for women the increased ability for orgasm and the lack of pain were more tightly linked to companionate love than to passionate love (r_compan.=0.31 > r_pass.=0.30 and r_compan.=0.34 > r_pass.=0.29 respectively).

7. Study: Studying the effects of frequent porn consumption on sexual functions and various aspects of personality on a sample of young university students

The university students of today belong to the generation that may have extensively used porn for informal sex education in their adolescent. Therefore it’s important to uncover how and to what extent regular frequent porn consumption effects the various aspects of their sexuality, and whether we see any gender differences in this area as often suggested. A further question is whether in the case of frequent porn watching the aversive effect on sexual functions described by studies – especially for men – can or cannot be observed even in their early twenties, and also what impression porn consumption leaves on their cognitive images and schemas. Regarding online sexual addictions, it’s important for effective preventions (vulnerability) to identify those personality traits that make one susceptible to such addictions.

We measured the frequency of porn consumption with an item from the ELTE Sexual Behavior Questionnaire (Marián & Urbán, 2002) which is stated like In the past month have you…followed by some alternatives including watched porn movies/videos. The subject scored the item on a scale of 1 through 5 (1: never, 5: often).

Our hypotheses were described along three main blocks: in relation with sexual functions, cognitive schemas and personality factors.

The results were similar to those in a previous, yet unpublished study of ours in which we have found that the aversive effects do not have an impact on sexual functions of young people in their early twenties. The results of our current study can be summed up in three statements: 1. the liberating, desire releasing effect of regular use of porn expected in the case of female sexuality has not been detected; 2. frequent porn
consumption decreased the significance of intimate relationships in the context of sexuality; 3. regular porn consumption shows weak but significant correlation with several personality traits (e.g. experience seeking, aggression, uninhibitedness).

8. Study: the application of person-centered approach in sexual psychology

Having a holistic perspective that also takes interactions into account, the new person-centered approach provides an alternative for the traditional variable-oriented perspective in the areas of personality- and health psychology researches (Suranyi, 2012). Using cluster analysis for this study, we are able to utilize the possibilities of modern statistical procedures to gain a better understanding of the (co)operation between personality and sexuality. The analysis of the relationships between the profiles of female and male sexual functioning provided by the person-oriented approach is illustrated in Figure 3 and 4.

Figure 3. The analysis of profiles from model-based clustering along the indices of female sexual functioning

Figure 4. The analysis of profiles from model-based clustering along the indices of male sexual functioning
In spite of the use of different tests and questions, it is clearly evident from the above figures that the patterns of the female and male profiles are highly similar regarding sexual functioning. What stands out is the entirely positive Meaningful versus the dysfunctional sexuality of the Decadent and Sexnegative. The person-oriented approach, we believe, may provide novel ways to better understand sexuality and relationship congruency.

Discussion

In their book called *Positive Psychology*, Snyder and Lopez (2007) defined *flourishing relationships* as a positive relation that continuously improves and becomes more meaningful as a result of mutual efforts from both partners. As they say, attachment and love are necessary but not sufficient conditions for maintaining such relationships. They must be complemented by *purposefully positive relationship behavior* (Snyder & Lopez, 2007).

Via this series of studies, I intended to more closely examine an important aspect of relationship strength and happiness, namely human sexuality. I hope that my efforts provide a deeper understanding, and more precise measurement of this phenomenon, and ultimately better preventions for its dysfunctions.


