

# **A mature evolutionary psychology demands careful conclusions about sex differences**

Jens B. Asendorpf<sup>1</sup> and Lars Penke<sup>1,2</sup>

<sup>1</sup>: *Institut für Psychologie, Humboldt-Universität zu Berlin, Berlin, Germany.*

<sup>2</sup>: *International Max Planck Research School LIFE*

***jens.asendorpf@rz.hu-berlin.de***

***lars.penke@staff.hu-berlin.de***

***www.psychologie.hu-berlin.de/per***

*Asendorpf, J. B., & Penke, L. (2005). A mature evolutionary psychology demands careful conclusions about sex differences. A commentary to D. P. Schmitt. Behavioral and Brain Sciences, 28, 275-276.*

**Abstract:** By comparing alternative evolutionary models, the International Sexuality Description Project marks the transition of evolutionary psychology to the next level of scientific maturation. The lack of final conclusions might partly be a result of the composition of the Sociosexual Orientation Inventory and the sampled populations. Our own data suggest that correcting for both gives further support to the strategic pluralism model.

**The evolution of evolutionary psychology.** During the last 15 years, evolutionary psychology has made enormous progress towards becoming a widely accepted approach for the study of human behavior, especially in the sexuality domain (Okami 2004). This level of acceptance includes not only the endorsement of the neo-Darwinian theory of evolution as a tenable metatheory but also of midlevel evolutionary theories derived from that metatheory (see Buss 1995), such as Trivers' (1972) parental investment theory, on which most of the target article's reasoning is based. The arrival at this state is the true achievement of evolutionary psychology so far.

**Comparing evolutionary models.** According to Holcomb (1998), the next step of scientific maturation must include rigorous empirical testing of alternative evolutionary

models and hypotheses deduced from these midlevel theories, to abduce the most predictive and explanatory one for a given issue. The International Sexuality Description Project (ISDP) is, as Schmitt impressively demonstrates, the first large-scale attempt capable of meeting the forthcoming challenge. Though he mourns that his results are not clear-cut enough to allow for the rejection of all but one of the competing models, the ISDP surely is a step in the right direction. We hope that many studies will follow this example. However, comparing models requires careful operationalization of the model parameters and testing them in a context where they will yield different predictions. Under this perspective, we see two problems with Schmitt's conclusion of universal sex differences.

**Problem 1: The heterogeneity of the Sociosexual Orientation Inventory (SOI).**

Although it is likely that the different reproductive challenges faced by men and women during phylogenesis channeled the evolution of sex-specific strategy dispositions (Buss & Schmitt 1993), socioenvironmental constraints prohibit the straightforward conclusion of behavioral sex differences (Gangestad & Simpson 2000). For example, as noted by Schmitt, the number of sex partners reported by men should equal those reported by women in an unbiased heterosexual sample. The SOI is a heterogeneous measure of sexual strategies that blends attitudinal, affective, and behavioral aspects, with various extents of sex differences expectable for each. Even though Schmitt attempts to circumvent this problem by separately testing an attitudinal and a behavioral component, the items he aggregated to form the behavioral component are still quite heterogeneous. No overall sex differences can be expected for honest reports on the number of sex partners in the last 12 months (item 1) and the number of one-night stands (item 3). Thus, if they are not solely a consequence of sex-specific reporting biases (Alexander & Fisher 2003), the sex differences in Schmitt's behavioral component should stem exclusively from sex differences in the expected number of future sex partners (item 2) and the frequency of sexual fantasies with an uncommitted partner (item 4), aspects that are both arguably closer to his attitudinal component.

**Problem 2: The homogeneity of the samples.** In such encompassing projects as the ISDP, limitations of data quality are practically inevitable, a fact that Schmitt is well aware of. Still it cannot be overemphasized that his conclusions of universal sex differences in sociosexuality have only been proven for young college-linked

populations. These samples show more or less severe range restrictions not only in age and sociodemographic variables but especially in life phase: An extended educational period goes hand in hand with prolonged dependence on parental support, delay of marriage and reproduction, and extensive identity exploration and self-selection into social niches (Arnett 2000). Such a state of change and confusion is very likely unsupportive for women to develop a subjective feeling of independence from paternal investment in any culture or environment, which, according to Gangestad and Simpson's (2000) strategic pluralism model, is the prime determinant of women's conditional switch towards a more unrestricted sociosexual orientation. The different models Buss and Schmitt (1993) and Gangestad and Simpson (2000) derived from Trivers' (1972) parental investment theory would thus make the same predictions for sex differences in populations of college students. The critical studies of sociosexuality in the context of highly committed long-term relationships and especially marriages are grossly absent from the literature (Simpson, Wilson & Winterheld 2004).

**Our data.** To provide some clarification for these issues, Penke and Denissen (2005) studied a German community sample (over 1,000 sexually experienced heterosexuals aged 18 to 50). As expected, they found that sex differences were absent in self-reports of past behaviors but more pronounced in future expectations and especially unrestricted sexual fantasies. The latter aspect also showed a clear connection to the attitudinal, but not the behavioral component, the former being indifferent in between. In line with the conditional sexual strategies emphasized by the strategic pluralism model, but contrary to the sex-specific mixed sexual strategies proposed by Buss & Schmitt (1993), a lack of sex differences in the total sociosexuality score for married (but not for dating) participants emerged, which was the result of a greater number of reported unrestricted behaviors by married (vs. dating) women. Just as suggested by recent evidence on female strategy shifts conditional to their natural ovulatory cycle (Thornhill & Gangestad 2003), this effect was especially pronounced when controlling for hormonal contraceptive usage.

**Conclusion.** Schmitt has made a great contribution in proving conditional shifts in sexual strategies across cultural contexts and environmental conditions. Unfortunately, he drops this ecological sensitivity to argue for universal sex differences in sociosexuality based on national averages, without making an attempt to account for the

large residual intranational variance in both sexes (even though he explored interactions with relationship status and sexual orientation in the ISDP article on the less controversial sex differences in the desire for sexual variety, Schmitt et al. 2003). Because different evolutionary models with concurring predictions exist, such claims can be misleading, even when restricted to college populations. Although demonstrating that mean (or median) sex differences in the human mating psychology was surely helpful for the initial establishment of modern evolutionary psychology, its current state demands a more differentiated perspective and more carefully designed empirical studies to give consideration to the full scope of possibilities the evolutionary metatheory has to offer.

## References

- Alexander, M. G. & Fisher, T. D. (2003) Truth and consequences: Using the bogus pipeline to examine sex differences in self-reported sexuality. *Journal of Sex Research* 40:27–35.
- Arnett, J. J. (2000) Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist* 55:469–80.
- Buss, D. M. (1995) Evolutionary psychology: A new paradigm for psychological science. *Psychological Inquiry* 6:1–30.
- Buss, D. M. & Schmitt, D. P. (1993) Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review* 100:204–32.
- Gangestad, S. W. & Simpson, J. A. (2000) The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences* 23:573–644.
- Holcomb, H. R. (1998) Testing evolutionary hypotheses. In: *Handbook of evolutionary psychology*, ed. C. Crawford & D. Krebs. Erlbaum.
- Okami, P. (2004) True, new, and important: An introduction to the special issue. *Journal of Sex Research* 41:2–4.
- Penke, L. & Denissen, J. J. A. (2005) *Sex differences in sociosexual orientation across different stages of relationship development*. Unpublished manuscript, Humboldt University of Berlin, Germany.
- Schmitt, D. P., Alcalay, L., Allik, J., Ault, L., Austers, I., Bennett, K. L., Bianchi, G., Boholst, F., Borg Cunen, M. A., Braeckman, J., Brainerd Jr., E. G., Caral, L. G. A., Caron, G., Casullo, M. M., Cunningham, M., Daibo, I., Desouza, E., De Backer, C., Diaz-Loving, R., Diniz, G., Durkin, K., Echeagaray, M., Eremsoy, E.,

- Euler, H. A., Falzon, R., Fisher, M. L., Fry, D. P., Fry, S. F., Ghayur, M. A., Giri, V. N., Golden, D. L., Grammer, K., Grimaldi, L., Halberstadt, J., Haque, S., Hefer, E., Herrera, D., Hertel, J., Hoffman, H., Hradilekova, Z., Hudek-Keneevi, J., Jaafar, J., Jankauskaite, M., Kabangu-Stahel, H., Kardum, I., Khoury, B., Kwon, H., Laidra, K., Laireiter, A., Lakerveld, D., Lampart, A., Lauri, M., Lavallée, M., Lee, S., Leung, L. C., Locke, K. D., Locke, V., Luksik, I., Magaisa, I., Marcinkeviciene, J., Mata, A., Mata, R., McCarthy, B., Mills, M. E., Mkhize, N. J., Moreira, J., Moreira, S., Moya, M., Munyeya, M., Noller, P., Olimat, H., Opre, A., Panayiotou, A., Petrovic, N., Poels, K., Popper, M., Poulimenou, M., P'yatokh, V., Raymond, M., Reips, U., Reneau, S. E., Rivera-Aragon, S., Rowatt, W. C., Ruch, W., Rus, V. S., Safir, M. P., Salas, S., Sambataro, F., Sandnabba, K. N., Schulmeyer, M. K., Schütz, A., Scrimali, T., Shackelford, T. K., Sharan, M. B., Shaver, P. R., Sichona, F., Simonetti, F., Sineshaw, T., Sookdew, R., Speelman, T., Sümer, H.C., Sümer, N., Supekova, M., Szlendak, T., Taylor, R., Timmermans, B., Tooke, W., Tsaousis, I., Tungaraza, F. S. K., Vandermassen, G., Vanhooissen, T., Van Overwalle, F., Van Wesenbeek, I., Vasey, P. L., Verissimo, J., Voracek, M., Wan, W. W. N., Wang, T., Weiss, P., Wijaya, A., Woertment, L., Youn, G. & Zupanèiè, A. (2003) Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands. *Journal of Personality and Social Psychology* 85:85–104.
- Simpson, J. A., Wilson, C. L., & Winterheld, H. A. (2004). Sociosexuality and romantic relationships. In: *Handbook of Sexuality in Close Relationships*, eds. J. H. Harvey, A. Wenzel & S. Sprecher. Erlbaum.
- Thornhill, R. & Gangestad, S. W. (2003) Do women have evolved adaptation for extra-pair copulation? In: *Evolutionary aesthetics*, ed. E. Volland & K. Grammer. Springer.
- Trivers, R. L. (1972) Parental investment and sexual selection. In: *Sexual selection and the descent of man*, ed. B. Campbell. Aldine-Atherton.