An Evolutionary Analysis of Seductive Behavior of Newly Convicted Females

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Abstract

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Primary psychological evaluation in prison was addressed in terms of the interaction between convict (female) – psychologist (male), aiming to identify seductive behavior indicators within the context of protean strategy used by females to create ambiguity in the intergender encounters. Also, we aimed to investigate the association of seductive behaviour indicators with individual inclusive fitness score of female detainees, calculated based on the psychological screening form and a standardised fitness evaluation scale from the field of Evolutionary Psychology (High-K Strategy Scale). Recorded interviews of 33 detainees from Arad Maximum Security Penitentiary, Romania, were analysed taking into account that five women had suicidal attempts before conviction. Seductively expressive women (N=14) had higher values of individual fitness values compared to the non-expressive female category (N=19), but the difference was not statistically significant. Suicidal females expressed no seductive behavioral indicators despite their moderate to high fitness scores, which claims for further reconsideration of fitness evaluation in the context of suicidal behavior.

Keywords: Prison environment; seductive behavior indicators; suicidal behaviour; evolutionary fitness.

1. Introduction

1.1. Asymmetries in communication between genders: Views on seductive behavior

Literature analysis in the area of gender interactions reveals an asymmetric distribution of control behaviour in terms of who initiates and determines the outcome of opposite sex communication

(Grammer et al., 2000). According to Grammer et al. (2000), several non-evolutionary views on gender differences and equalities indicate that, if sex differences in behavior between men and women exist, they should be mainly a result of culture-specific learning processes (norms), which are related to the emergence of *gender stereotypes.* For example**,** a trans-cultural gender stereotype is the one that require men to take the initiative in initial mixed-sex encounters more often than women (Garcia et al., 1991).

The field of evolutionary psychology supports the idea of asymmetric distribution of control behavior regarding the interactions between genders through the asymmetric investment theory or *theory of parental investment* (TIP; Trivers, 1972), which states that the relative proportion of investment in rearing the offspring varies across males and females, in terms that a female needs fewer mating episodes to fertilize the eggs she can produce during the entire life, whereas a male has the potential to fertilize a much higher number of eggs than one female can produce. Given these conflicts of interests between the two sexes, it is expected that the mate-search strategies differ between males and females accordingly. Hence, females having the higher investment in their offspring (Trivers, 1972) have higher costs from making a poor mate choice than men, which leads to the expectation that female evolved psychology might be based on mechanisms that could motivate active female choice and strategic control of interactions with male strangers, in the direction of obtaining the most favourable outcomes for the female actors (Grammer, 1990). Several questions have started to emerge whether this strategic control of interactions with male strangers appears not only in sexual contexts, but also in non-sexual ones.

Several empirically validated studies on interactions between genders indicate a repertoire of courtship signals which were observed and described in several setting, either in sexual contexts (i.e. single's bars, laboratory conditions) or non-sexual contexts, such as waiting room experiments and client-therapist interactions; most the studies indicate similarities in the behavioral manifestations of females in the presence of male strangers, including "come-on" types of signals (Grammer et al., 2000; Moore, 1985). Moore (1985) has produced an an index of 52 behavioral elements (courtship behavior), which were positively correlated with male approaches in a single's bar, but he could not find indicators of direct prediction of female sexual interest in men. The display of courtship behavior elements by women without clear prediction of sexual interest towards the male actors has stimulated further investigations of the potential function of female seductive-like expressivity in intergender encounters with no clear sexual connotation, such as waiting room situations (Grammer et al., 2000). This exploration has started from the evolutionarily supported idea that, compared to men, women are much better in encoding and decoding non-verbal behavioral cues. From the earliest childhood, females exhibit more and more expressive, non-verbal behavior than males do, such as facial expressions and touching, empathy-related behaviors etc. (Grammer et al., 2000). Putting together this ontogenetic-based abilities of females with the logic of asymmetric investment theory, i.e. the adaptive costs of sexual bad decision making are higher for women than for men, one can predict that the possibility of male deception in an initial encounter when the goals are unknown (e.g. waiting room situations), the possibility of deception should play a more important role for women than for men (Buss, 1992; Grammer et al., 2000).

1.2. The protean strategy and communication ambiguity: Seductive signals in non-sexual contexts

Evolutionary psychology literature indicates that males attempt to deceive women with symbols related to their socio-economic status (ability to provide resources), while females tend to deceit regarding their physical attributes (indicators of fertility and reproductive abilities; Buss, 1992). Hence, it appears that men, even in non-sexual contests, are continuously testing for opportunities to reduce investment and pursue women. As a consequence, one should expect that women should have evolved psychological mechanisms that motivate manipulation of men to reveal information about their intentions, from the very first encounter. In this light, Sabini & Silver (1982) states that the essence of initial opposite-sex encounters should be creation of *ambiguity,* where both sexes tend to hide their goals and reveal information about possible commitment in a slow and progressive manner. In the same line, Grammer, Fieder, & Filova (1997) describe the process of *communication paradox*, in terms that, in the context of intergender interactions, intentions have to be communicated without actually revealing these intentions. This brings into discussion the probability of deception and the strategies each gender has evolved against it. Miller (1997) identifies three possible counter strategies against deception: (a) hiding of intentions (poker face strategy); (b) tactical deception and misinformation (KGB strategy); *(c) adaptive unpredictability (the protean strategy).* The protean concept (Chance, 1957; Humphries, & Driver, 1970) was adapted after the Greek river god who was able to unpredictably change forms in situations of danger (Grammer et al., 2000). The gender which has the most to lose in an interaction with the other sex, i.e. female gender, should try to control the interaction to a higher degree in order to get the information necessary for decision making and minimization of costs. Behavioral data gathered in non-sexual contexts, such as waiting room setting (Grammer et al., 2000) indicate that women use solicitation signals (seductive signals) irrespective of their professed sexual interest, which supports the hypotheses that non-verbal seductive signals displayed by females towards unfamiliar male strangers might be part of a protean strategy of female evolved psychology.

In the dynamic process of the interpersonal communication, the subject manifests these non-verbal behaviors in order to convey actions, intentions, conditions, emotions, information and cues related to personality traits (Dittrich, Troscianko, Lea, & Morgan, 1996; Pollick, Paterson, Bruderlin, & Sanford, 2001; Troje, 2002). A question we raise here is whether the non-verbal seductive signals displayed by women in non-sexual contexts are related or not with the individual evolutionary fitness ability (i.e. abilities for survival and reproduction). The strategies by which an organism is able to produce descendants (i.e., direct fitness) are usually framed within the *Life History Theory* (LHT), which maintains that any available resources in any particular environment are finite (Bogaert, & Rushton, 1989; Giosan 2006). From the LHT perspective, two main reproductive strategies are identified: (1) the K-selected strategy, which consists in producing a smaller number of offspring with higher chances of survival, and (2) the r-selected strategy, which consists in the production of a large number of offspring, of whom only a minority may survive (Rushton, 1985; Giosan, 2006). These reproductive strategies result from psychosocial traits of the individuals (i.e., cognitive, emotional, behavioral traits). From the evolutionary psychology perspective, the high-K strategy can be manifested through the following dimensions (Figueredo et al., 2006; Giosan, 2006): (1) preserving or increasing health of self, offspring and kin; (2) achieving upward mobility, which may translate into better access to

healthcare, educational, and career opportunities for the offspring; (3) social capital, which may translate into receiving help from others when in need, and (4) careful consideration of risks. In our paper, we raise the question whether the seductive signals displayed by women in non-sexual context (in this case, we refer to the primary psychological interview of newly convicted females having to face a male psychologist), if they occur as predicted by the protean strategy regarding female-male first interaction, are related to the individual fitness value.

The prison-based environment, by being a closed environment in terms of social alternatives (i.e. coalition formation and finding sexual partners), might stimulate the female prisoners to use at maximum capacity their phylogenetic acquired skills in order to survive (Andelin, & Rusu, 2015). It is generally acknowledged that interpersonal communication skills and the level of emotional intelligence are key factors of individual adaptation to new environments, such as prison. In prison, apart from having to cope with the physical specificity of the environment, new people who are submitted might unconsciously assess the physical attributes of individuals with whom they have contacts inside the penitentiaries, including the personnel. In our study we address the primary psychological evaluation in prison in terms of the interaction between convict (female) – psychologist (male) (i.e. non-sexual context similar to waiting room situation), aiming to indentify elements of seductive non-verbal behavior (seductive behavioral indicators; SBI) and to investigate the association of seductive behavioral indicators with the evolutionary individual fitness value. Hence, our objective is to investigate whether in a field non-sexual situation (primary psychological interview), female detainees will display a protean strategy towards the male psychologist they are encounter for the first time (display of seductive behavior elements) and whether the seductive signals are related to their individual fitness scores.

2. Methodology

Content analysis of recorded videos of 33 primary psychological interviews (based on informed consent) of newly convicted women (N = 33, age between 22-65 years) to Arad Maximum Security Penitentiary, Romania, during January 2013 to May 2014. The women were convicted for a wide variety of reasons, such as robbery, burglary, fraud, homicide, drug dealing and prostitution. The subjects were initially informed about the activity conducted. Recording was done with a Sony HDR-CX 190 video camera. The interview took place in a room at the Maximum Security Prison Arad, Romania. The subjects were seated and the video-camera was placed at about 40-50 cm in front of them. The interviews last between 25 and 50 minutes / session. The first 20 minutes of interviews were taken into consideration for the behavioral content analysis. Several data such as demographic information and scores at standardized psychological instruments (a standard version of psychological screening for inmates) were available for each individual.

Non-verbal seductive behavioral data analysis: Frame-by-frame analysis was performed in order to extract the behavioral data. Among the several repertoires of non-verbal seductive behavior elements found in the literature, we selected only those identified by Grammer et al. (2000) as being related with the professed sexual interest of females in waiting room situation: *Primp* **(**ordering one's clothes

without a visible necessity), *Coy smile* (a smile followed immediately by a turning away and lowering of the head), *Look through* (looking at the other person but not fixating on her or him and looking away immediately; there is no pause between the movement of looking at the partner and looking away from the partner), and *Short glance* (glance directed at the partner for less than 3 s). A binary coding system was used (0 = non-occurrence, 1 = occurrence) to quantify the seductive behavioral indicators for each primary interview of the newly convicted women. This elements allowed us to generate two categories of detainees: (1) expresive and (2) non-expresive (inexpressive) (for a detailed description of the seductive behavioral indicators, see Andelin, & Rusu, 2015).

Individual fitness score assessment: Four dimensions were considered for the calculation of the individual fitness value, based on the High-K Strategy Scale (Giosan, 2006): (1) health, (2) upward mobility, (3) social capital and extended family and (4) consideration of risk. The four dimensions taken from HKSS (Giosan, 2006) were each assigned dimensions extracted from the semi-structured interview used by the psychologist during the primary psychological evaluation in prison, such as: age, history of psychological and medical conditions in the family, suicidal ideation, suicidal attempts, marital status, number of children, psychiatric diagnostic, financial mobility, occupational history, social network support, connection with the family during detention time, social situation of children, type of offense, infractional history, existence of self-aggression, drug consumption). Each dimension was coded with 0 (presence) or 1 (absence). The sum of values for all the dimensions represents the individual fitness score (Table 1).

3. Results

Females detainees were divided into two categories regarding the identification of the seductive behavioral indicators: expressive (N= 14) and non-expressive women (N=19), based on indicators of seductive behavior. Slight differences, but not statistically significant, were found between the two categories of women in terms of fitness values (t test for independent samples, NS, expressive women: m = 13.8, SD = 2.6, non-expressive women: m = 12.8, SD = 3.02), with the expressive women having a higher average value of individual fitness scores. It is important to mention that all the five women that had suicidal attempts before detention fit into the category of non-expressive ones (Table 1), so no seductive behavioral indicator were displayed by the suicidal detainees). If the suicide attempt would be scored with value zero on the health and risk dimensions of fitness scale, the differences in fitness values between the seductively expressive and non-expressive detainees would become statistically significant.
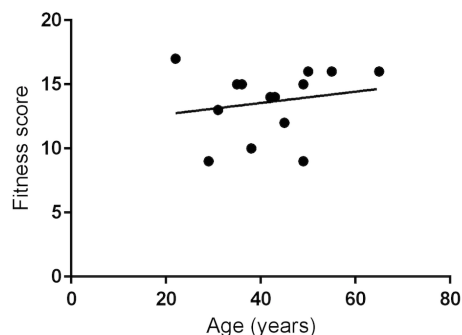
Figure 1. Regression analysis of age of expressive women with fitness values indicates an increase of the fitness scores with age for this category of women (N=14), but the deviation is not significant.
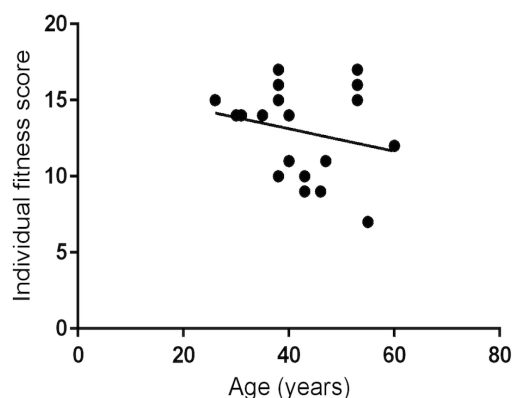

Figure 2. Regression analysis of age of non-expressive women (N=19) with fitness values indicates a descendant direction of the slope, but not statistically significant. In this category, 5 women had suicidal attempts before the moment of conviction.

Table 1. Age (years) and individual fitness scores calculated for each female detainee (14 women in the seductively expressive category and 19 women in the non-expressive category).

Seductive category															
Expressive women (N=14)	Age (years)	43	31	22	35	50	38	42	65	45	55	24	49	49	36
	Fitness value	14	13	17	15	16	10	14	16	12	16	9	9	15	15
Non-expressive women without suicidal attempts (N=14)	Age (years)	43	53	38	40	35	43	38	47	40	53	30	53	31	38
	Fitness value	9	15	16	14	14	10	15	11	11	16	14	17	14	17
Non-expressive women with suicidal attempts (N=5)	Age (years)	53	38	26	60	46									
	Fitness value	7	10	15	12	9									

4. Discussion and conclusions

Even though without statistical significance, our data on the seductive Romanian female detainees indicate a slight differences in individual fitness scores between the seductively expressive and non-expressive detainees in the non-sexual context of primary psychological interview in prison (female detainees – male psychologist). A larger sample and further investigations are definitely needed to

reveal the connection between the individual fitness and the protean strategy of sending seductive signals in this specific type of non-sexual setting, i.e. the prison environment. It is important to mention that all the women with suicidal attempts before detention did fit within the non-expressive category, meaning that no seductive behavioral indicators were recorded during the primary interviews in their cases. Being fully aware about the small size of the sample (N=5 suicidal detainees), we suggest that our findings on the lack of seductive non-verbal behavior in the case of the suicidal women regardless their medium fitness scores, should stimulate a reconsideration of fitness assessment in the case of individuals who had already committed suicide attempts, in terms of assigning a low value on the fitness scales, or at least zero values on the dimensions of risk consideration and health. If we assign zero values to the dimensions of risk consideration and health for the five suicidal detainees in our sample, the fitness differences between the expressive and non-expressive females become significant.

Another interesting aspect is that the regression analyses of age and the fitness individual scores, points towards the evolutionary predicted relation between fitness and age in the case of non-expressive females (Figure 2; the higher the age, the lower the fitness score), but not in the case of seductively expressive females (Figure 1), in which the relation appears to be an inverse one, i.e. the higher the age, the higher the fitness value. It could be that this particular relation between age and fitness value applies for this specific category of risk-taking individuals (detainees). Further data are needed to confirm this hypothesis. Also, it would be useful to approach the protean-related emotional expressivity of female detainees from the perspective of T-pattern algorithm proposed by Magnusson (2000), which takes into consideration the dynamic value of communication in relation to specific contexts, which might favour the apparition of patterns of behavioral elements (hierarchically patterned synchronization). The rhythmic occurrence of specific behavioral patterns suggest that they might play an important role in the organization of behavior (Magnusson, 2000), especially in unpredictable situations, such as the case of waiting rooms and primary interviews in prison. Literature indicates females can adjust the quality of their behavior when they are interested in a partner (Gramer et al., 2002). In the context of primary psychological interview in detention, we can consider that the newly detainees might develop an interest towards developing alliances with the males in a power position (prison personnel, psychologist), in order to receive institutional protection. According to waiting room studies (Grammer et al., 2000), this interest might not be directly revealed, but rather masked under a protean strategy of displaying seductive behavior, so that the manipulative tendency should be as less conspicuous as possible.

The quality of non-verbal expressions is shaped and defined by contexts, in an adaptive manner. Hence, we can infer that in the prison environment where the communication relations are well defined (detainee and prison personnel); protean-type behavioral patterns might be activate in the direction of survival and optimal social functioning. Despite the small sample size, a strong point of our investigation is the field context of data collection, i.e. all the interviews were conducted in prison, at the very first encounter with the male psychologist. Also, the dimensions included in the psychological screening form allowed us to elaborate a fitness assessment form in accordance to the dimensions of the HKSS (Giosan, 2006), which is a commonly used instrument in the field of Evolutionary Psychology. The results of this analysis make clear that the concept of proteanism in social situations,

especially the non-sexual ones, such as the primary psychological interviews in prison addressed in this study, might be useful in future research, clinical practice and every day interactions.

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