Measuring sexual orientation of a Portuguese gay, lesbian and bisexual internet sample

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This article surveyed the measurement of sexual orientation of a Portuguese gay, lesbian and bisexual internet population. Total number of participants in the study who filled out the Klein Sexual Orientation Grid (Portuguese version) available on the internet was 714 men and 91 women all gay, lesbian or bisexual identified (a total of 1000). This method was chosen because the internet is now an important tool used by gays, lesbians and bisexuals for socialising and to gather information. Basic ethical issues were observed namely, informed consent, maintenance of privacy and confidentiality. Key theoretical issues were addressed such as the categorisation of sexual orientation, its origins and development. Data analysis consisted of subjecting the items of the Grid to a factor analysis of principal components, internal reliabilities by Cronbach's alpha coefficient ($\alpha=.94$), frequency analysis and comparisons between temporal dimensions (present, past, and ideal). The results indicate that sexual orientation is a dynamic process and can be subject to change, when subjected to temporal analysis. The implications of such results are also discussed.

'Sexual orientation is one of the four components of sexuality and is distinguished by an enduring emotional, romantic, sexual or affectionate attraction to individuals of a particular gender.(…) Three sexual orientations are commonly recognised: homosexual, attraction to individuals of one's own gender; heterosexual, attraction to individuals of the other gender; or bisexual, attractions to members of either gender. Persons with a homosexual orientation are sometimes referred to as gay (both men and women) or as lesbian (women only). Sexual orientation is different from sexual behaviour because it refers to feelings and self-concept. Persons may or may not express their sexual orientation in their behaviours'.
Public Affairs,
American Psychological Association (2002).

TRADITIONALLY, sexual orientation has been studied from polarised points of view, in which a person would express it by contrast to an opposed sexuality. In this context, for instance, homosexuality would be treated as a consequence of social sexual roles inversion and categories were dichotomously presented, leaving no other possible classifications (McConaghy, 1977). Sexual orientations other than what is purely heterosexual, hence, were considered to be homosexual and deviant. This has been changed when the works of Kinsey, Pomeroy, and Martin (1948) opened a road to understanding when they explored sexual orientation exclusively in terms of erotic feelings, based on the function of physical reactions towards determined stimuli – other or same-sex partner and based on the type of sexual behaviour practiced. For Kinsey, it was clear that sexual orientation could only be understood on a one-dimensional continuum, where heterosexuality and homosexuality were at extreme polar ends, but never 100 per cent attainable and thus non-existent.

In this way, the majority of people would fall somewhere on this continuum.

The Kinsey model, however, presents an important limitation: it implies a reciprocal relation, i.e. the more one is heterosexual the less homosexual he or she should be and vice versa (Sanders, Reinich & McWhirter, 1990). This is the reason why in 1980, Storms presented a modified Kinsey model, considering that both homosexuality and heterosexuality could be viewed as orthogonal independent dimensions and not as the extremes of a single dimension. From here, four categories were proposed, depending on the degree of homoeroticism and heteroeroticism and presenting a bi-dimensional structure where bisexual people are represented as having high levels of homosexuality and heterosexuality and not just as having moderate levels for each either one.

Presently, there is a good number of studies and literature on the subject. However, the body of literature underscores a need to consider other dimensions when trying to understand the real nature of sexual orientation besides the variables used by the likes of the Kinsey model and its predecessors. This is particularly important especially due to its dynamic character and to the fact that it may vary throughout the lifecycle (Nusbaum & Rosenfeld, 2004, p.146). This aspect is fundamental in the undertaking of this study – to demonstrate the current trend in the sexual orientation of the Portuguese internet community.

This paper recognises that, as a communication medium, the internet is increasingly becoming a scene of social construction and that it is helpful in understanding the way social realities get constructed and reproduced today. According to Kelsey and Amant (2008), the internet has created opportunities for individuals to engage in social interactions and that its use has now shifted to a means with which to create and maintain individual and group social relationships. (p.478) Hence, the internet was used as a primary tool to achieve the objectives of this study.

Sexual orientation

A clear definition of what 'a sexual orientation' is and its origins has been insufficient in most research studies due mainly to a lack of empirical data on the research that is currently available on the topic. For example, from a psychoanalytical perspective, the factors contributing to a homosexual orientation reside in the unresolved nature of parental relationships which facilitate the identification with the same-sex progenitor. One of the most popular psychodynamic views involves the conception of a poor and hostile same-sex progenitor and the establishment of an over protected relationship with the opposite-sex progenitor Bieber et al. (1962) and Evans (1969). Most such studies generalised their theories based on a sample from a patient group. Several studies have shown that there are significant psychological differences in people who seek treatment and those who do not seek treatment among gay, lesbian and bisexual self-identified individuals that cannot be generalised.

Generally speaking, sexual orientation is defined as a preponderance of sexual or erotic feelings, thoughts, fantasies and/or behaviours that are present from an early age, perhaps as early as conception (Savin-Williams, 1990). From this perspective, sexual orientation is considered to be a life-long process instead of an event.

Sexual orientation can also be understood as a physical and emotional preference (Shively & DeCecco, 1977) This is seen in the context of the proposition that the development of sexual orientation is a process instead of an event. The physical preference can be seen as two independent continua of heterosexuality and homosexuality; for each individual there is a continuum for physical heterosexuality and for physical homosexuality. Qualitatively, individuals can be seen as heterosexuals, homosexuals or bisexuals; quantitatively, individuals can be considered heterosexual or homosexual. Emotional preference can also be considered as two independent continua from affective hetero-

sexuality and affective homosexuality (Shively & DeCecco, 1977).

This theory – sexual orientation as a physical and emotional preference – allows us a deeper approach when making observations of varied manners of sexual expression, but can also lead to the creation of certain conflicts between physical and emotional manifestations. However, these conflicts can be resolved at two different levels: behaviour and fantasy. The behavioural level is often utilised to describe and identify sexual orientation, whereas the fantasy level is usually used in clinical settings and helps to clearly identify sexual orientation. A complete identification should include both parameters.

Klein (1993) considers that when talking about sexual orientation one should take into consideration seven different dimensions: (1) sexual attraction; (2) sexual behaviour; (3) sexual fantasies; (4) emotional preference; (5) social preference; (6) homosexual or heterosexual lifestyle; and (7) self-identification. All dimensions valorise past, present and ideal positions.

Klein (1993) conceptualises his work within the study of bisexuality, and tries to test the fact that sexual orientation is a multivaried, and dynamic process, made of sexual and non-sexual variables, differentiated throughout a certain frame of time. This assumption involves the fact that people may modify their sexual orientation, in such terms that the label they utilise today may not necessarily be the same as yesterday's or tomorrow's.

Origins and development

Behavioural theories have conceptualised sexual orientation development associating it to specific instrumental learning behaviours, mainly during childhood and adolescence. Accordingly, Kinsey (1948) rejected the ideas that heterosexuality, bisexuality and homosexuality were innate and considered sexual orientation to be the result of significant learning experiences. Masters and Johnson (1979) also shared the idea that first same-sex positive experiences would determine a homosexual orientation.

Bell, Weinberg and Hammersmith (1981) analysed the family history of hundreds of homosexual and heterosexual men and women and concluded the following: (1) when boys and girls reach adolescence their sexual orientation is already determined even if they haven't had any sexual contact with other people; (2) in the majority of cases homosexual feelings appeared three years prior to the first sexual encounter; (3) homosexual men and women showed no poor heterosexual relationships in their childhood; (4) identification with the father had no correlation to any type of sexual orientation; and (5) for homosexual men, the most important feature in the expression of their sexuality was the non acceptance of social sexual roles, whereas for homosexual women, the most important feature was the nature of family relationships.

Other studies suggest that there is a strong correlation between the development of a certain sexual orientation and the presence (or not) of behaviours associated with social sexual roles. Green (1987) in his prospective investigation demonstrated that 75 per cent to 80 per cent of the boys studied who showed typically feminine behaviours could be considered homosexual or bisexual in their adolescence. Bailey and Zucker (1995) in their meta-analysis with 41 retrospective studies of this type concluded that both homosexual men and women had informed crossed gender behaviour during childhood.

Shively and DeCecco (1977) also proposed that the development of sexual orientation is also linked to the development of social sexual roles. From their perspective, the emotional aspect of the parent's sexual orientation is easier to be observed than its physical aspects, which in turn, contribute to the faster development of emotional characteristics of sexual orientation in the child. Subsequently, conflict between the sexual orientation and other components of sexual identity can occur. The most common conflict occurs between the sexual orienta-

tion and the biological sex, since physical heterosexual orientation is socially associated to procreation. The child usually resolves this conflict by separating the two aspects.

There seems to be a lack of studies regarding sexual orientation from a heterosexual perspective. At this point, we cannot disregard biological and genetic contributions to the explanation of sexual orientation. Yet, our focus is this matter is on the psychosocial variables influencing this process. Most likely there isn't a single way of being heterosexual, bisexual or homosexual; there are, however, several paths to develop this and several factors need to be taken into consideration.

Method

The objective of the present study is to measure sexual orientation of a large internet sample. In line with the previous thesis that sexual orientation is dynamic and constantly changes, the study seeks to demonstrate the current trend of sexual orientation in the specified population. Also, it was our goal to determine psychometric properties of the instrument utilised in order to fill the gap verified in the literature regarding the measurement of sexual orientation.

Participants

The participants are composed of 1000 volunteers drawn from several Portuguese speaking internet-based communities. All participants were from 14 to 72 years of age (M age=30.5 years, SD=10.23), and the majority of them were male (81.2 per cent male; 18.2 per cent female).

Participants came from Portugal (45.4 per cent), Brazil (49.6 per cent), and other countries (5 per cent). The distributions for economic status presented 16 per cent low, 56.1 per cent average, and 27.9 per cent high. Meanwhile, 45.5 per cent of all participants have college education.

The majority of participants are single (59.8 per cent), 7.8 per cent are married (heterosexual marriage), 17.8 per cent have a same-sex relationship, and 8.2 per cent a legalised same-sex unions.

Finally, 69.4 per cent of all participants identified themselves as gay or lesbian, whereas 22.1 per cent identified as bisexual. A significant 4.3 per cent did not identify with any category of sexual identity and 3.7 per cent identified as curious.

Instrument

The instrument used in the present study is the Klein Sexual Orientation Grid, which is a system to describe one's sexual orientation in a detailed and informative manner. It was developed by Klein (1993) and involves the establishment of seven components of sexual orientation: sexual attraction, sexual behaviour, sexual fantasy, emotional preference, social preference, life style and self-identification. For each component, past, present and ideal measures are presented.

The factorial structure of Klein's Sexual Orientation Grid remained unknown (Weinrich et al., 1993), although it was utilised to test the fact that sexual orientation is, in fact, a dynamic and multi-varied process, composed of sexual and non-sexual variables, differentiated throughout time.

A Portuguese version of the Grid was put together after the author's permission to do so was given.

Procedures

Participants were asked to collaborate through the internet. The researchers sent e-mails via mailing lists, joined internet-based communities and participated in Forums and Chat rooms of Portuguese speaking gay and lesbian groups, asking them to go to the address where the Portuguese version of the Klein's Sexual Orientation Grid was available. This website was built for the purpose of this study. The website was visited by approximately 10,000 internet users, and 1000 completed the Grid successfully.

Results

Reliability and factor analysis

We examined the reliability of the Klein's Sexual Orientation Grid. The variables explored included all 21 items of the Grid. Cronbach's alpha for the overall scale was .94, suggesting excellent internal consistency of the items. Since a .92 KMO indicated a very good validity for the Factorial Analysis, this procedure was made using a principal components extraction. The results presented five principal factors, representing 78.60 per cent of explained variance. After a Varimax rotation, the items were organised accordingly to temporal criteria (present/past/ideal) for dimensions of 'sexual attraction', 'sexual behaviour', 'sexual fantasy', 'emotional preference', and 'self-identification'; and accordingly to a common criterion of 'social preference' and 'lifestyle'. These results are shown in Table 1.

Measures of sexual orientation

From the frequencies analysis of the items of the Klein's Sexual Orientation Grid (obtained from the mean scores of the items), we can observe that the majority of participants refers homoerotic exclusivity in all variables, except in variables of social preference and lifestyle.

Yet, as we can see in Table 2, important discrepancies when comparing frequencies between present, past and ideal moments were registered.

Table 1: Final aggregation of principal components of the Klein's Sexual Orientation Grid after Factor Analysis (KMO=0.92), extraction method: principal components with Varimax rotation.

DIMENSION	Item (e loading)	Eigenvalue	% Explained Variance	Cronbach's α
DIMENSION 1 (IDEAL)	Item 3 – IDEAL Sexual attraction (0,83)	10.13		0.95
	Item 6 – IDEAL Sexual behaviour (0,86)		48.22	
	Item 9 – IDEAL Sexual fantasy (0,84)			
	Item 12 – IDEAL Emotional preference (0,79)			
	Item 21 – IDEAL Self-Identification (0,75)			
DIMENSION 2 (PAST)	Item 2 – PAST Sexual attraction (0,85)	2.11		0.92
	Item 5 – PAST Sexual behaviour (0,82)		10.05	
	Item 8 – Past Sexual fantasy (0,78)			
	Item 11 – PAST Emotional preference (0,76)			
	Item 20 – PAST Self-Identification(0,74)			
DIMENSION 3 (PRESENT)	Item 1 – PRESENT Sexual attraction (0,78)	1.84		0.90
	Item 4 – PRESENT Sexual behaviour (0,77)		8.76	
	Item 7 – PRESENT Sexual Fantasy (0,76)			
	Item 10 – PRESENT Emotional preference (0,69)			
	Item 19 – PRESENT Self-Identification (0,48)			
DIMENSION 4 (SOCIAL PREFERENCE)	Item 13 – PRESENT Social preference (0,86)	1.34	6.40	0.84
	Item 14 – PAST Social preference (0,84)			
	Item 15– IDEAL Social preference (0,77)			
DIMENSION 5 (LIFESTYLE)	Item 16 – PRESENT lifestyle (0,81)	1.09	5.18	0.80
	Item 17 – PAST lifestyle (0,73)			
	Item 18 – IDEAL lifestyle (0,66)			

Table 2: Frequency analysis for all items of the Klein's Sexual Orientation Grid (1 represents exclusive homosexuality; 7 represents exclusive heterosexuality).

Item	Mean	Median	Mode	SD
Item 1 – PRESENT sexual attraction	1.8	1	1	1.3
Item 2 – PAST sexual attraction	2.7	2	1	1.9
Item 3 – IDEAL sexual attraction	2.2	1	1	1.7
Item 4 – PRESENT sexual behaviour	1.8	1	1	1.6
Item 5 – PAST sexual behaviour	2.9	2	1	2.1
Item 6 – IDEAL sexual behaviour	2.3	1	1	1.8
Item 7 – PRESENT sexual fantasy	1.7	1	1	1.3
Item 8 – PAST sexual fantasy	2.4	2	1	1.7
Item 9 – IDEAL sexual fantasy	2.2	1	1	1.7
Item 10 – PRESENT social preference	1.9	1	1	1.7
Item 11 – PAST social preference	2.8	2	1	2.0
Item 12 – IDEAL social preference	2.3	1	1	1.9
Item 13 – PRESENT emotional preference	3.4	4	4	1.5
Item 14 – PAST emotional preference	3.8	4	4	1.6
Item 15 – IDEAL emotional preference	3.4	4	4	1.4
Item 16 – PRESENT lifestyle	3.6	4	4	1.7
Item 17 – PAST lifestyle	4.4	4	4	1.8
Item 18 – IDEAL lifestyle	3.4	4	4	1.6
Item 19 – PRESENT self-identification	2.3	1	1	1.6
Item 20 – PAST self-identification	3.3	3	1	2.0
Item 21 – IDEAL self-identification	2.7	2	1	1.9

These discrepancies between temporal dimension were all subject to a statistical assessment, and all variables tested significant when comparing present, past, and ideal moments ($p=.05$), using the MANOVA analysis.

Figure 1 presents the mean scores for the dimension 'sexual attraction' for present, past, and ideal moments. Differences between the three moments are statistically significant (Pillai's Trace = 0.535; F(12,000; 1986,000) = 60,468; $p<0.001$), which indicates that in the past participants had less exclusively homosexual attractions than in the present, and that ideally they would have less exclusively homosexual attraction that in the present.

Figure 2 shows the mean scores for the dimension 'sexual behaviour' for present, past, and ideal moments. Differences between all moments are statistically significant (Pillai's Trace = 0.451; F(12,000;

1986,000) = 48,157; $p<0.001$), which indicates that in the past, participants had less exclusively homosexual behaviours than in the present, and that ideally they would have less exclusively homosexual than in the present.

Figure 3 presents the mean scores for the dimension 'sexual fantasy' for present, past, and ideal moments. Differences between the three moments are statistically significant (Pillai's Trace = 0.439; F(12,000; 1986,000) = 46,546; $p<0.001$), which indicates that participants in the past had less exclusively homosexual fantasies than in the present, and that ideally, they would have less exclusively homosexual fantasies than in the present.

Figure 4 shows the obtained mean scores for the dimension 'social preference' for present, past, and ideal moments. Differences between the three moments are statistically significant (Pillai's Trace = 0.618; F(12,000; 1986,000) = 74,058; $p<0.001$), which indicates

Figure 1: Mean scores for the dimension 'sexual attraction' in present, past, and ideal moments after significant MANOVA (Pillai's Trace=0.535; F(12,000; 1986,000)=60,468; *p*<0.001).
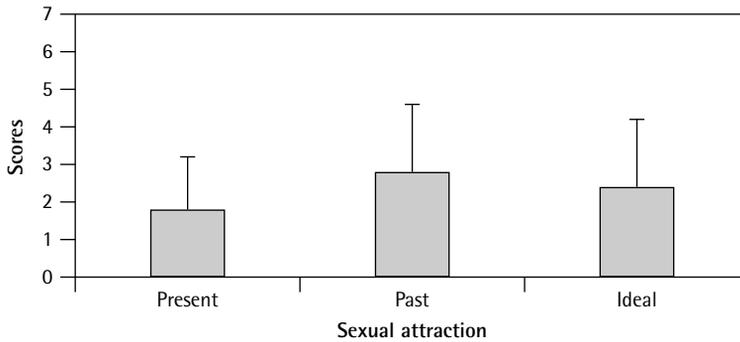

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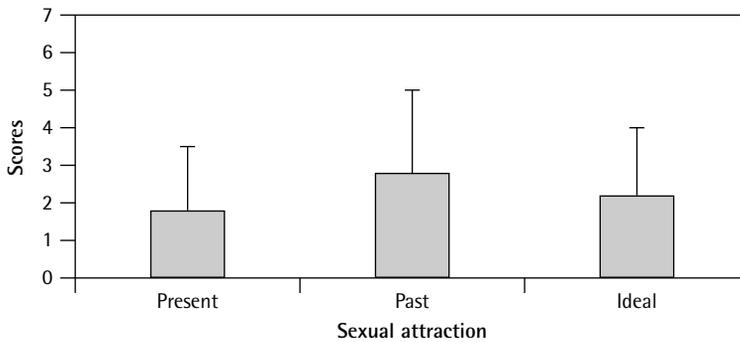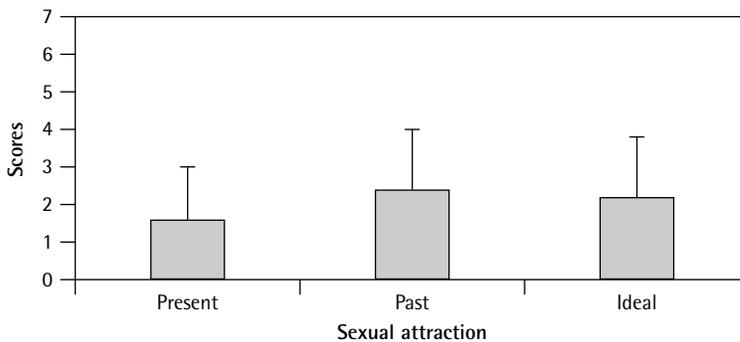

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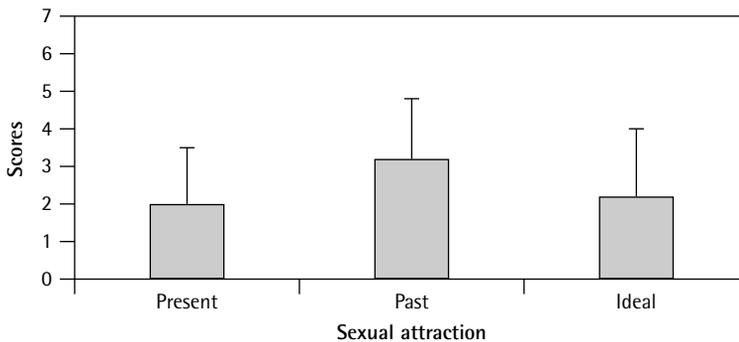
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that in the past, participants had less exclusive social preference for same-sex individuals than in the present, and that ideally, they would have less preference for exclusively same-sex individuals than in the present.

Figure 5 presents the mean scores for the dimension 'emotional preference' for present, past, and ideal moments. Differences between all moments are statistically significant (Pillai's Trace = 0.594; F(12,000; 1986,000) = 69,853; *p*<0.001), which indicates that in the past participants had more emotional preference for only same-sex individuals than in the present, and ideally they would have more emotional preference of both-sexes than in the present.

Figure 6 presents the mean scores for the dimension 'lifestyle', for present, past, and ideal moments. Differences for all three moments are statistically significant (Pillai's Trace = 0.506; F(12,000; 1986,000) = 55,996; *p*<0.001), which indicates that in the past, participants had a more bisexual lifestyle than in the present, and that ideally, they would have a more homosexual lifestyle than in the present.

Finally, Figure 7 shows the mean scores for the dimension 'self-identification' for present, past, and ideal moments. Differences between all three moments are statistically significant (Pillai's Trace = 0.614; F(12,000; 1986,000) = 73,346; *p*<0.001),

which indicates that in the past, participants self-identified less as homosexuals than in the present, and that ideally they would identity less as homosexuals than in the present.

Discussion

The results obtained in this study corroborate the idea that sexual orientation is, indeed, a dynamic, multidimensional and complex process, which changes through time. One of the first implications of such results resides in the fact that more intra-psychological variables (such as sexual attraction, sexual behaviour, sexual fantasy, emotional preference, and self-identification) were aggregated by temporal criteria (present, past, and ideal) whereas more inter-psychological variables (such as social preference and lifestyle) were aggregated by common criteria, other than temporal dimensions.

When measured in different temporal frameworks, all comparisons indicated statistically significant results, which clearly show how sexual attraction is dynamic and does not reflect a static *continuum* in our lives. Rather, it reflects conditionalisms of social nature, intricated in the categories of sexual identity that are concurrent with the categories of sexual orientation.

An emergent issue about this particular finding is that if one argues that sexual

Figure 5: Mean scores for the dimension 'emotional preference' in present, past, and ideal moments after significant MANOVA (Pillai's Trace=0.594; F(12,000; 1986,000)=69,853; *p*<0,001).
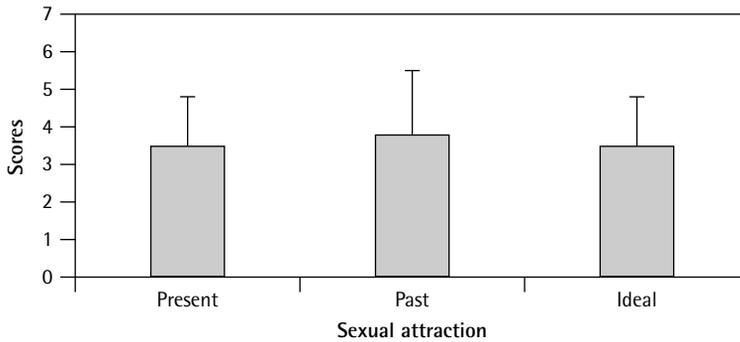

Figure 6: Mean scores for the dimension 'sexual attraction' in present, past, and ideal moments after significant MANOVA (Traço de Pillai=0.506; F(12,000; 1986,000)=55,996; *p*<0.001).
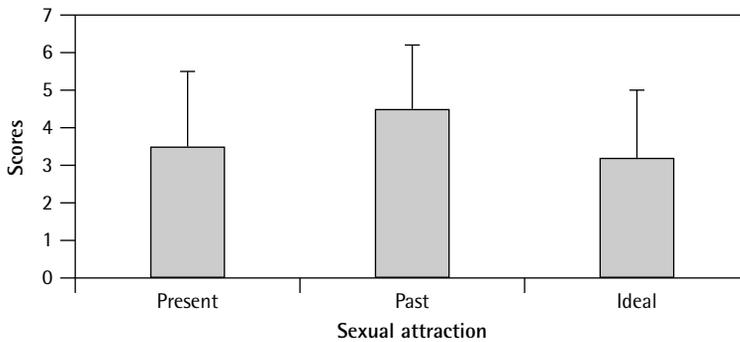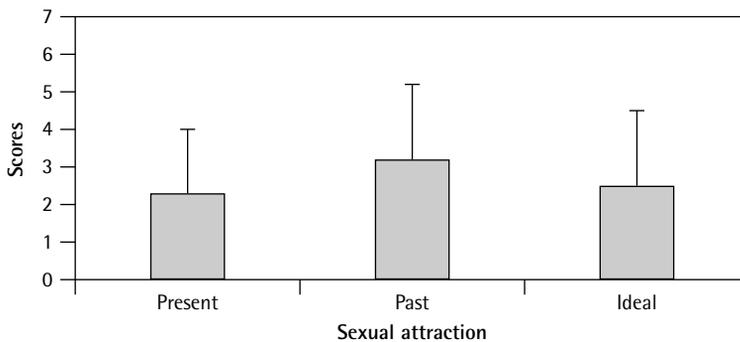

Figure 7: Mean scores for the dimension 'sexual attraction' in present, past, and ideal moments after significant MANOVA (Pillai's Trace=0.614; F(12,000; 1986,000)=73,346; *p*<0.001).

orientation is a changeable and a dynamic process, one could also argue that gays, lesbians and bisexuals could also change their sexual orientation. Spitzer (2003) reclaimed such a goal, but it is our conviction that that is not the case. In fact, our data show fluctuations that go from a more heterosexual pole in the past to a more homosexual pole in the present, and a more bisexual pole ideally and not of a pattern that show a conscious choice to change orientations. An important variable to these fluctuations is the fact that heteronormativity and homophobia leads individuals in a more precocious stage of human development (as measured in the present study as in the past dimension) to yield to societal pressures. Here, the earlier part of the human life cycle is more susceptible to societal pressure, while in the present time individuals feel more liberated from those pressures, and allow themselves to express fully their sense of sexual orientation. Finally, as they may feel that their sexual orientation is not the most important part of who they are as individuals, an approximation to more bisexual component may be ideally conjectured for their future.

One other question may arise from these results: 'who remains heterosexual, bisexual or homosexual?' It is important to consider that the maintenance of our sexual orientation involves aspects of stability and uniformity, but as Laumann et al. (1994) demonstrated, sexual behaviours and sexual attractions are more stable than self-identifications. This has direct implications in terms of what categories for self-identification are available in the social context.

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