

How do we Love? Do Gender, Age, "Passion Status" and "Control" Really Matter?: Highlights from the Questionnaire "Being in Love"

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ABSTRACT— *Being in love is a powerful emotional state and a cross-cultural universal. The first aim of the present study was to validate the Portuguese version of Helen Fisher's questionnaire — Being in Love (2004). The second aim of this study was to explore possible differences between gender, age group, present versus past passion and being versus not being in control of one's feelings while in love. The sample included female (78.9%) and male (21.1%) adult participants (N=394; age in years: M =32.1; SD =9.9). Results showed that the total sample mentioned having ever been in love, the majority of the sample reported having a present passion, not being in control of one's feelings, not being attracted to more than one person at the same time and not being married nor living with a partner. Results also showed that women reported more frequently both current and past passion. Men more frequently mentioned feeling attracted to more than one person at the same time. Men showed higher mean values for lust (sexual desire) and younger people (18-24 years old) showed higher mean values for attraction (passionate love) than other age groups. Regarding differences between present/past passion and being/not being in control of one's feelings, people who have a present passion showed higher mean values (than those who reported having a past passion) in relation to attachment (companionate love), and people who reported not controlling one's feelings showed higher mean values regarding the Being in Love Scale overall as well as in the attraction (passionate love) subscale. In general, the results of the analysis of the psychometric properties of the Portuguese version of Helen Fisher's questionnaire — Being in Love (2004) - are satisfactory in the Portuguese context; therefore they allow for its applicability when studying how Portuguese people experience intimate relationships.*

Keywords—romantic love, being in love, attachment (companionate love), lust (sexual desire), attraction (passionate love), Portuguese adult.

1. INTRODUCTION

Being in love is a powerful emotional state. It has been defined as: a state of intense longing for union with another person. Being in love is a complex functional whole including appraisals or appreciations, subjective feelings, expressions, patterned physiological processes, action trends, and instrumental behaviours. Intense romantic love is a cross-cultural universal (Fisher, 2004; Giddens, 2013; Hatfield & Rapson, 2006; Jankowiak & Fisher, 1992; Langeslag, van der Veen & Fekkes, 2012), which has an important impact on one's feelings of self-worth (Conolly & Goldberg,

1999), on identity formation and on the capacity for intimacy (Florsheim, 2003). When it is reciprocated (establishes union with the other person), it is associated with fulfillment and ecstasy, but if unrequited (separation), it is associated with feelings of emptiness, anxiety, and despair (Fisher, 2004; Langeslag et al., 2012).

Early-stage intense romantic love is marked by clear and substantial modifications at physiological, psychological and behavioral levels (Fisher, 1998; Leckman & Mayes, 1999). Specific physiological changes include fast heartbeat, sweaty palms and increased and excessive energy when one is with the beloved person, portraying sympathetic nervous system activity (Fisher, Aron & Brown, 2005). Cognitive and emotional changes involve dimensions such as an intense focused attention on the target individual, obsessive, intrusive and persistent thinking about him or her, emotional dependency on and craving for emotional union with the beloved, euphoria, elation, mood swings, and extreme empathy. As for behavior, people in early-stage intense romantic love are goal-directed and change their habits to impress or remain in contact with the beloved one. Finally, people in love express their sexual desire as well as an intense sexual possessiveness (Aron et al., 2005; Fisher et al., 2005). Fisher (1998) suggested that behavioral aspects of early-stage intense romantic love are comparable to cocaine-reward producing exhilaration, excessive energy, sleeplessness, and loss of appetite.

In *Why We Love*, Helen Fisher (2004) argued that people possess a trio of primary brain systems designed to deal with close, intimate relationships. These are: attraction (passionate love), lust (sexual desire), and attachment (companionate love). Presumably, this trio of systems evolved during mankind's long evolutionary history; each is designed to play a critical role in courtship, mating, and parenting. According to Fisher's and collaborators' research (1998, 2004, 2010), attraction evolved to persuade man's ancestors to focus his/her attention on a single and favored dating partner, sexual desire evolved to motivate young people to seek a wide range of sexual partners, and attachment evolved to insure that devoted parents would remain together during the first crucial four years of a child's life.

According to Fisher (2004), attraction (passionate love) is characterized by a yearning to win a preferred mating partner. She speculated that three chemicals—dopamine, norepinephrine, and serotonin—play a crucial role in romantic passion. Sexual desire (lust), on the other hand, is typified by a general craving for sexual gratification and may be directed toward many potential partners. She observed that androgens, particularly testosterone, are central to sparking sexual desire in both men and women. Attachment (companionate love) is comprised of feelings of tranquility, social comfort, emotional union, and security, which are increased in the presence of a long-term mate. It sparks affiliative behaviors, close proximity, separation anxiety when closeness disappears, and a willingness to participate in shared parental chores. Animal studies suggest that this brain system is primarily associated with oxytocin and vasopressin in the nucleus accumbens and ventral pallidum.

Researchers are learning more about the chemistry of passionate love. They are also learning more about the way that various emotions, positive and negative, interact. Based on the revision of the literature, two questions stand out: (1) Is love an emotion? (2) How tightly linked are passionate love and sexual desire?

As for the answer to the first question, it is important to consider that Fischer, Shaver and Carnochan (1990) characterized emotions as “complex functional wholes including appraisals or appreciations, patterned physiological processes, action tendencies, subjective feelings, expressions, and instrumental behaviours” (p. 85). Scholars have interviewed men and women from a variety of cultures and of different age groups. They have conducted surveys and experiments, utilized prototype analyses, and taken a social categorical approach to determine whether or not love should be classified as a basic emotion and if so, what people mean by the terms “in love” and “love”. In cross-cultural research—in languages as different as English, Italian, Basque, and Indonesian—ordinary people are able to identify five distinct emotions: love, joy, anger, sadness, and fear—as prototypic emotions. ; Neuroscientists are sharply divided as to whether love is an emotion (Bartels & Zeki, 2000; Birbaumer et al., 1993; Hatfield & Rapson, 2008) or not (Diamond, 2004; Gonzaga et al. 2006; Reis & Aron, 2008).

Generally, passionate love is associated with the terms “arousal,” “desire,” “lust,” “passion,” and “infatuation. Companionate love is associated with “love,” “affection,” “liking,” “attraction,” and “caring” (Giddens, 2013; Shaver, Schwartz, Kirson, & O'Connor, 1987; Shaver, Murdaya, & Fraley, 2001).

After discussing the criteria that various theorists have used to classify emotions, they concluded that given these criteria, love (which includes passionate and companionate love) must be classified as an emotion (Fisher, 2004). When Shaver and his colleagues (1996; 1991) reviewed all the evidence, pro and con, they also concluded that love is indeed a basic emotion. Thus, social psychologists generally assume that love (passionate or companionate) is indeed a basic emotion. Regardless, some scholars have argued that “being in love” and “loving” are *not* emotional experiences. They prefer to call love “a plot” or “script” (as in a story you tell yourself), “a sentiment,” “a feeling,” “a disposition,” a “syndrome,” or “a motivational state.” (Shaver, Morgan & Wu, 1996).

Regarding the second question - Are “passionate love” and “sexual desire” the same thing? There is plenty of social psychological evidence in support of the argument that in most people's minds, love and sex are tightly related; in fact, most people find difficult to imagine passionate love without sexual desire (naturally, men and women can easily imagine the opposite—sexual desire without passionate love) (Förster, 2010; Hatfield, & Rapson, 2005; Regan & Berscheid, 1999; Regan, 2004). Neuroscientists and evolutionary psychologists, however, are still in sharp disagreement as to whether love and lust are very different systems (Diamond, 2004; Gonzaga et al., 2006) or are tightly linked

(Bartels & Zeki, 2000). These neuroscientists do agree, however, that all of the brain systems for passionate love, sexual desire, and attachment do in fact communicate and coordinate with one another.

Given the importance and complexity of love, and since studies are scarce in Portugal, the first aim of the present study was to validate the Portuguese version of Helen Fisher's questionnaire — Being in Love (2004). The second aim of this study was to explore possible differences between gender, age group, present versus past passion and being versus not being in control of one's feelings while in love.

2. METHODOLOGY OF RESEARCH

The online study of being in love (OSBL) is a study that assessed the frequency of falling and being in love in close relationships during adulthood based on the three dimensions that may be present in this kind of relationships: attraction (passionate love), lust (sexual desire), and attachment (companionate love).

The study had two aims: the validation of the Portuguese version of Helen Fisher's questionnaire — Being in Love (2004). Second, to explore differences between genders, age groups, present versus past passion and being/not being in control of one's feelings while in love. Comparing answers given by people from different cultures and of different genders is expected to give insights on how falling and being in love may differ nowadays.

2.1 Sample

A sample of 394 people was collected through an online questionnaire. It included 78.9% women and 21.1% men, whose mean age was 32.1 years old (SD= 9.9). The majority are of Portuguese nationality (93.4%) and heterosexual (95.4%).

2.2 Instrument and Procedures

Sample collection was conducted through an online questionnaire, constituted by a set of questions.

These included issues related to socio-demographic characteristics (gender, age, nationality), identifying if the participant had ever been in love or in an intimate relationship ("Have you ever been in love?" and "Are you currently "in love" OR are you answering to this questionnaire based on your feelings for someone in the past?"), issues that allowed for the description of the experience ("When you're in love with someone, which is approximately the percentage of time that person *occupies* in your thoughts on a typical day?", "When you are in love, does it sometimes feel like you have lost control of your feelings?", "If you are in love now, how long has it been going on?", "Are you married or "live with" a partner?") and Helen Fisher's Being in Love scale (2004) (constituted by 54 items). Students were asked to indicate their level of agreement with the statements using a seven-point response format (1=strongly disagree - 7=strongly agree).

Each person could participate only once and completing the questionnaire lasted between 15 to 20 minutes.

2.3 Data Analysis

The data were analysed using the Statistical Package for Social Sciences (version 22 for Windows). Descriptive statistics including frequencies, means and standard deviations were performed to give general descriptions of the data. Exploratory data analysis, assessment of internal consistency, followed by an exploratory factor analysis of the Being in Love Scale were conducted. ANOVA test was performed to examine differences in the Being in Love Scale scores for genders, age groups, the groups that mentioned present versus past passion, and the groups that referred being versus not being in control of one's feelings while in love. The level for statistical significance was set at $p < .05$. Only significant results are discussed.

3. RESULTS

3.1 Characteristics of being in love or intimate relationship and differences between genders

The total sample mentioned having ever been in love.

The majority of the sample reported having a present passion (69.8%), not being in control of one's feelings (55.3%), not being attracted to more than one person at the same time (73.9%) and not being married nor living with a partner (63.5%).

There were statistically significant differences regarding genders as far as women reported more frequently having a present passion and having had a past passion; and men more frequently reported feeling attracted to more than one person simultaneously.

Regarding the time the object of love occupies in the participants' thoughts on a typical day, the majority of the sample referred that it takes on average approximately 65% of the day. The majority of the sample also refers being in love for an average of about 7 years, 6 months and 59 days.

Table 1: Characteristics of being in love or intimate relationship and differences between genders

	Male (N=83)		Female (N=111)		Total ¹ (N=394)		χ^2	p
	N	%	N	%	N	%		
Have you ever been in love? (N=394)							-	-
Yes	83	21.1	111	78.9	394	100		
No	-	-	-	-	-	-		
Are you currently "in love" OR are you answering to this questionnaire based on your feelings for someone in the past? (N=394)							4.56	≤ .050 ou .033
A present passion	50	60.2	225	72.3	275	69.8		
A past passion	33	39.8	86	27.7	119	30.2		
When you're in love, does it sometimes feel like you have lost control of your feelings? (N=394)							0.23	n.s.
I feel I control my feelings	39	47.0	137	44.1	176	44.7		
I feel I do not control my feelings	44	53.0	174	55.9	218	55.3		
Do you presently feel attracted to more than one person? (N=375)							17.09	≤ .001 ou .000
Yes	34	44.7	64	21.4	98	26.1		
No	42	55.3	235	78.6	277	73.9		
Are you married or "live with" a partner? (N=386)							0.20	n.s.
Married	15	18.8	51	16.7	66	17.1		
Live with a partner	15	18.8	60	19.6	75	19.4		
Neither one nor the other	50	62.5	195	63.7	245	63.5		
	Male (N=83)		Female (N=111)		Total ¹ (N=394)		F	p
	M	DP	M	DP	M	DP		
[0% to 100%] When you're in love with someone, which is, approximately the percentage of time that person occupies in your thoughts on a typical day? (N=390)								
	65.56	22.09	64.80	19.97	64.96	20.37	.087	n.s
[Years] If you're in love now, how long has it been going on? (N=222)								
	7.34	6.94	7.07	7.09	7.12	7.05	.051	n.s
[Months] If you're in love now, how long has it been going on? (N=161)								
	4.38	2.92	6.39	6.23	5.99	5.78	3.148	n.s
[Days] If you're in love now, how long has it been going on? (N=45)								
	6.67	5.52	71.56	263.49	58.58	236.47	.536	n.s.

3.2 Principal components factor analysis with oblique rotation of "Being in Love Scale"

The 54 items of the Being in Love Scale were subjected to principal components factor analysis with oblique rotation. The items with communality <.40, and an extraction of 3 factors were suppressed.

The remaining 28 items were again subjected to a principal components factor analysis with oblique rotation, which revealed an extraction with 3 factorial factors, explaining 39.5% of variance (see table 2).

Table 2: Factor analysis of Being in Love Scale

Factor Analysis	Factors		
	Attachment (companionate love)	Lust (sexual desire)	Attraction (passionate love)
When someone tells me something funny, I want to share it with _____.	,703		
I feel happy when _____ is happy and sad when he/she is sad.	,675		
I feel very self assured when I'm with _____.	,663		
I like to keep my program open, so that if _____ is free, we can find a way to meet.	,608		
I Get angry when _____ is treated unfairly.	,606		
I never cease to love _____, even when things go wrong.	,584		
I'll never forget our first kiss.	,546		
I remember trivial things _____ says and does.	,533		
_____ has a voice that stands out.	,508		
My passion for _____ is able to overcome any obstacle.	,504		
Sometimes my feelings for _____ are overshadowed by feelings of romantic passion for another person.		,676	
When I'm with _____, my thoughts wander by other lovers I had.		,654	
When I am talking to _____ I am often afraid of saying something wrong.		,638	
My relationships with my closest friends are more important to me than my relationship with _____.		,633	
I am concerned about my feelings for _____.		,621	
Sex is the most important part of my relationship with _____.		,542	
I often ask myself if _____ is in love with me as I am for him/her.		,540	
Sex is the best aspect of love.		,481	
It's good to be apart from _____ for a few days, so the excitement emerges again.		,465	
My daydreams with _____ include making love/sexual contact.		,422	
I spend hours imagining romantic episodes with _____.			,733
My heart races when I hear the voice of the _____ at the phone.			,677
Sometimes I feel embarrassed, shy and inhibited when I'm close to _____.			,641
When I'm in class / at work my mind wanders to _____.			,573
I go through a period of despair when I think that _____ might not love me.			,548
The last person I think every day before falling asleep is _____.			,525
I like everything about _____.			,504
When I feel very attracted to someone, I evaluate their actions, looking for clues about his/her feelings towards me.			,437
Explained variance	16,15	13,93	9,44

The first factor included 10 items related to attachment (companionate love), and explained 16.2% of the variance. The second and third factor grouped 10 and 8 items related to lust (sexual desire) and attraction (passionate love) and explained 13.9% and 9.4% of variance, respectively.

Regarding internal consistency, the overall Being in Love Scale, the lust (sexual desire) subscale, and the attraction (passionate love) subscale presented acceptable levels of internal consistency (namely, $\alpha = .78, .78, .75$, respectively). As for the attachment (companionate love) subscale, it presented a good level of internal consistency ($\alpha = .81$).

3.3 Differences in the Being in Love Scale scores for genders

The comparison of genders by using the parametric ANOVA test didn't show statistically significant differences for the overall score of Being in Love Scale, the attachment (companionate love) subscale, and the attraction (passionate

love) subscale. Statistical significant differences occurred regarding the lust (sexual desire) subscale, where men scored higher than women.

Table 3: Differences in the scores of the Being in Love Scale for genders

	Male (N=83)		Female (N=311)		Total (N=394)		F
	M	SD	M	SD	M	SD	
Being in Love Scale	124.59	19.33	122.79	19.33	123.17	17.77	0.669
Attachment (subscale)	53.37	9.92	54.37	9.21	54.16	9.36	0.741
Lust (subscale)	36.01	10.35	33.20	10.26	33.79	10.33	4.895*
Attraction (subscale)	35.20	8.24	35.22	8.33	35.22	8.30	0.000

* p< .05

3.4 Differences in the scores of the Being in Love Scale for being/not being in control of one's feeling

Comparing the two groups by using the parametric ANOVA test, there were no statistically significant differences for the attachment (companionate love) subscale and the lust (sexual desire) subscale. Statistical significant differences were found regarding the overall score of Being in Love Scale and the attraction (passionate love) subscale as far as the participants who referred not being in control of one's feelings while in love presented higher scores than the other group.

Table 4: Differences in the scores of Being in Love Scale for being/not being in control of one's feeling

	Being in control of one's feelings (N=176)		Not being in control of one's feelings (N=218)		Total (N=394)		F
	M	SD	M	SD	M	SD	
	Being in Love Scale	119.60	18.71	126.06	16.46	123.17	
Attachment (subscale)	54.34	9.62	54.01	9.17	54.16	9.36	0.119
Lust (subscale)	32.74	11.45	34.64	9.27	33.79	10.33	3.307
Attraction (subscale)	32.51	8.21	37.40	7.72	35.22	8.30	36.900***

* p< .05

3.5 Differences in the scores of the Being in Love Scale for the age groups

Comparing the age groups by using the parametric ANOVA test, there were no statistically significant differences for the overall scores of the Being in Love Scale, the attachment (companionate love) subscale and the lust (sexual desire) subscale. Statistical significant differences occurred regarding the attraction (passionate love) subscale as younger participants (18-24 years old) scored higher than other age groups.

Table 5: Differences in the scores of the Being in Love Scale for age groups

	18-24 years (N=101)		25-31 years (N=113)		32-37 years (N=79)		38-58 years (N=101)		Total (N=394)		F
	M	SD	M	SD	M	SD	M	SD	M	SD	
	Being in Love Scale	123.77	17.99	124.27	17.42	122.76	17.44	121.67	18.34	123.17	
Attachment (subscale)	54.71	9.74	53.69	9.16	53.58	9.47	54.58	9.20	54.16	9.36	0.380
Lust (subscale)	32.22	9.71	34.98	10.69	34.15	9.57	33.76	11.01	33.79	10.33	1.317
Attraction (subscale)	36.84	8.19	35.59	7.67	35.03	8.11	33.33	8.95	35.21	8.30	3.177*

* p< .05

3.6 Differences in the scores of the Being in Love Scale for present/past passion

The comparison of the overall scores of participants according to referred present/past passion by using the parametric ANOVA test revealed no statistically significant differences for the Being in Love Scale, the attraction (passionate love) subscale and the lust (sexual desire) subscale. Statistical significant differences occurred regarding the attachment (companionate love) subscale as people who referred having a present passion score higher than those who referred a past passion.

Table 6: Differences in the scores of the Being in Love Scale for present /past passion

	Present Passion (N=275)		Past Passion (N=119)		Total (N=394)		F
	M	SD	M	SD	M	SD	
Being in Love Scale	123.61	17.06	122.16	19.35	123.17	17.77	0.553
Attachment (subscale)	55.40	8.89	51.29	9.83	54.16	9.36	16.708***
Lust (subscale)	33.31	10.77	34.91	9.17	33.79	10.33	1.985
Attraction (subscale)	34.89	8.03	35.97	8.89	35.22	8.30	1.386

* p< .05

4. DISCUSSION

Overall, the results suggest that all individuals experience romantic love at some point during their lifetime. The understanding of the experience of being in love is similar to the understanding of attachment in adulthood, concepts that originally derived from Bowlby (1973) and Ainsworth (1989). Whilst universally recognized, the attachment theory allows for a better understanding of the human development in adulthood and the main processes and dynamics underlying romantic relationships. However, even though emerging from a common reference framework, the agreement concerning attachment types or dimensions had been described in different ways considering each author's theoretical perspective^[1,23,29]. The Portuguese version of Helen Fisher's —Being in Love (2004) questionnaire, obtained through the principal components analysis with oblique rotation (oblimin), revealed the presence of a concise factorial structure, composed by three components similar to the original version. It presented acceptable/good consistency values either for the total (alpha=.78) and for the three dimensions, namely the attachment (companionate love) subscale (alpha=.81), the lust (sexual desire) subscale (alpha=.78), and the attraction (passionate love) subscale (alpha=.75).

The sample in this study included 394 adult participants. The total sample, in which 78.9% are women, mentioned having ever been in love; the majority referred having a present passion; not being in control of one's feelings while in love; not being attracted to more than one person at the same time; and not being married nor living with a partner. Results also showed that women reported more frequently having had a past passion and having a present passion. Men more frequently mentioned feeling attracted to more than one person at the same time. These tendencies are consistent with other research studies, namely those of Fisher (2004)^[1], Fisher, Aron, and Brown (2005)^[10], and Fisher, Brown, Aron, Strong, and Mashek (2010)^[30].

Considering differences between genders and age groups for the overall scores of the Being in Love Scale and the three subscales (attachment, lust and attraction), men (M= 36.01) showed higher mean values than women (M= 33.20) for lust (sexual desire), and younger participants (18-24 years old, M= 36.84) showed higher mean values for attraction (passionate love) than 25-31 year olds (M= 35.59), 32-37 year olds (M= 35.03) and 38-58 year olds (M= 33.33), which are similar results to the ones reported by Fisher (2004)^[1]. Regarding differences between present/past passion and being/not being in control of one's feelings, people who referred having a present passion showed higher mean values than those who reported a past passion in relation to attachment (companionate love); and people who referred not controlling one's feelings showed higher mean values than people who referred controlling one's feelings regarding the overall score of the Being in Love Scale and the attraction (passionate love) subscale. On the one hand, these results suggest the importance of reciprocity, safety and comfort for people who have a present passion; and on the other hand, they show that in the beginning of relationships, it is more difficult to control one's feelings. The collected data are consistent with the literature that associates the insecurity attachment to the lack of control of one's feelings (Fisher, 2004; Fisher et al., 2010; Treboux, Crowell & Waters, 2004). Despite the findings of this study being corroborated by other studies, some limitations against over-generalization must be held. First, the study was internet-based and as a consequence, data may be biased. And second, it is not possible to assess the underlying psychological mechanisms which lead to the way participants answered to the questions. Further research should assess these mechanisms, too.

In general, the analysis of the psychometrics characteristics of the Portuguese version of Helen Fisher's —Being in Love (2004) questionnaire is satisfactory, and it allows for its applicability when studying how Portuguese people experience intimate relationships.

The use of the Being in Love Scale may be a helpful tool both in clinical and investigation settings. In clinical settings it can be used with different purposes, especially as an orientation guide for the evaluation of close relationships and their different stages and processes (establishment, maintenance and dissolution), as an element of diagnosis in marital therapy, suggesting the meaning, the origin and the processes of change of relationship problems. As a research tool, it can be valuable for several reasons, such as understanding dimensions underlying romantic relationships, accessing the self and other concepts in romantic relationships, contributing to a better understanding of the cognitive structures that guide behavior and emotions with a partner, guiding conjugal outcomes, understanding deeply psychosocial functioning and developing more comprehensive models.

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