

Eu-Love and Pseudo-Love: An Important Split in Love Taxonomy

Sachi Sri Kantha¹⁾, Ayumi Hibino²⁾, Saori Yamamoto³⁾

ABSTRACT

Objective: Regrettably, love taxonomists among psychologists have not taken infidelity (adultery) into their conceptualization and measurement of love. To resolve this dilemma, we propose a dichotomous categorization of love into *eu-love* and *pseudo-love*.

Methods: We studied published literatures on love types in the past 30 years by prominent love taxonomists in predominant psychology journals.

Results: We propose two hypotheses, based on pseudo-love's link to cheating, under a name derived from the combination of two alphabets from our first names 'Sayuri', as follows: *Sayuri trio hypothesis 1 - Pseudo-love is directly proportional to cheating, either by one partner or by both. Sayuri trio hypothesis 2 - Eu-love is inversely proportional to cheating, and is an anti-dote to cheating.*

Conclusion: We define and introduce two new terms, *eu-love* and *pseudo-love* to love semantic terminology. As these two terms have not appeared either in any of the recognized English dictionaries or in Pub Med and ISI Web of Science databases as of now, they have not been used by love taxonomists as of now and they deserve recognition.

KEY WORDS

adultery, bullying, cheating, love, sex offenses

INTRODUCTION

*What is love? 'tis not hereafter;
Present mirth hath present laughter;
What's to come is still unsure.
In delay there lies no plenty,
Then come kiss me, sweet and twenty;
Youth's a stuff will not endure.*

- William Shakespeare, in *Twelfth Night*, Act 2, Scene 3, Lines 46-51.

Though the question 'What is love?' predates Shakespeare's era among the poets, literati and philosophers, neuroscientists have attempted to study this complex phenomena only since 2000¹⁻⁸⁾. The Oxford English Dictionary⁹⁾ provides six definitions for love. As indicated in Table 1, by contemporary standards, definitions 1 and 2 appear sexist and deserve gender-neutral words as well as scientific updating. Definition 2 describes the human love for God and Mother Teresa would have agreed with it; in fact, she had used the 'love' word and its variants more than 70 times in her 1979 Nobel Peace prize lecture¹⁰⁾. In the past 30 years, quite a number of psychologists have published their interpretations on the concept of love and scales to measure love. These include, Hendrick and Hendrick¹¹⁾, Hatfield and Sprecher¹²⁾, Sternberg^{13,14)}, Hazan and Shaver¹⁵⁾, Fehr and Russell^{16,17)}, Aron and Westbay¹⁸⁾, and Berscheid¹⁹⁾. Table 2 provides semantics of love types based on different causal conditions. Nevertheless, according to Hendrick and Hendrick²⁰⁾, when it comes to measuring love using the

proposed scales, using a single data set consisting of unmarried, somewhat affluent, White middle-class undergraduate student population, accuracy seems to suffer. Why this has to be so?

In concluding their study, Hendrick and Hendrick²⁰⁾ had observed, "Love is simply too unruly to be categorized so easily. It means different things to different people in different relationships at different points in time." Another compounding issue is the fact that almost 96% of the subjects on whom 'love' surveys and measurements were taken were young undergraduates from Western, educated, industrialized, rich and democratic (WEIRD) societies, which constitutes just 12% of the global population²¹⁾. Thus, such results are not broadly representative to majority of human population of varying age groups.

We are also concerned that, love taxonomists have ignored the evolution-linked phenomena of deception or non-cooperation (cheating) between individuals into their models on varied types of love²²⁻²⁵⁾. Table 3 provides at least 12 examples of traits that are classified as cheating in evolutionary context, among animals as varied as invertebrates and vertebrates including humans. Recently, Ghoul *et al*²³⁾ had defined cheating as: "(i) a trait that is beneficial to a cheat and costly to a cooperator in terms of inclusive fitness (ii) when these benefits and costs arise from the actor directing a cooperative behavior toward the cheat, rather than the intended recipient."

In this paper, we define and introduce two new terms, *eu-love* and *pseudo-love* to love semantic terminology. We also propose two hypotheses, based on *pseudo-love*'s link to cheating.

Received on February 29, 2016 and accepted on April 5, 2016

1) Center for General Education, Gifu University

1-1 Yanagido, Gifu City 501-1193, Japan

2) Unomori 1-chome 4-19-507, Yokkaichi City 510-0074, Japan.

3) 467 Oritate, Utopia 62, Gifu City 501-1132, Japan.

Correspondence to: Sachi Sri Kantha

(email: srikanth@gifu-u.ac.jp)

Table 1. Six Definitions for Love

Definition	Description
1	That disposition or state of feeling with regard to a person which (arising from recognition of attractive qualities, from instincts of natural relationship, or from sympathy) manifests itself in solicitude for the welfare of the object, and usually also in delight in his presence and desire for his approval; warm affection, attachment [52 words]
2	In religious use, applied in an eminent sense to the paternal benevolence And affection of God towards His children, to the affectionate devotion due to God from His creatures, and to the affection of one created being to another so far as it is prompted by the sense of their common relationship to God [54 words]
3	Strong predilection, liking of fondness for or devotion to (something) [10 words]
4	That feeling of attachment which is based upon difference of sex; the affection which subsists between lover and sweetheart and is the normal basis of marriage [26 words]
5	The personification of sexual affection; usually masculine, and more or less is identified with Eros, Amor or Cupid of classic mythology; formerly, sometimes feminine, and capable of being identified with Venus [31 words]
6	The animal instinct between the sexes, and its gratification [9 words]

*adapted from Oxford English Dictionary⁹

Table 3. Examples of traits identified as cheating among animals including humans*

Term	Living Organism
Nectar robbers	insects, birds
Non-hoarders	birds, mammals
Mutualism exploiters	insects, fishes, birds
Mimics	insects, arachnids
Brood parasites	insects, birds
Kleptoparasites	insects, fishes, amphibians, reptiles, birds, mammals
Scroungers	insects, fishes, amphibians, reptiles, birds, mammals
Free loaders	insects
Defectors	insects, fishes, humans
Non-cooperators	humans
Illegitimate emitters	insects, arachnids
Dishonest signaler	insects

*adapted from Ghoul *et al.*²³

METHOD

We studied published literatures on love types in the past 30 years by prominent love taxonomists in predominant psychology journals. Influenced by a news-item which appeared in a Japanese daily in 2012, that science of love is popular among female undergraduate students²⁰, while delivering a lecture on signals and noises at the Gifu University in 2015, one of us (SSK) elicited written response from 63 sophomores (38 men and 25 women, age range 19-20 years) of Engineering faculty, on love signals to a single question. (see Table 4)

RESULTS

Preferred 4 types of non-verbal love signals between Men and Women among young Japanese in a small sample is shown in Table 4. While eye contact is the first choice for men, hug is preferred by women

Table 2. Semantics of Love Types based on different causal conditions*

Love Type	Alternate words/phrases
Companionate Love	strong liking, friendship love, philias, conjugal love, storge
Romantic Love	passionate love, erotic love (eros), addictive love, obsessive love, deficiency love, being 'in love'
Compassionate Love	agape, caregiving love, selfless love, being-love (love for another being), sacrificial love, pure love, true love, unconditional love, altruistic love, communal responsiveness
Adult attachment love	strong affectional bond

*adapted from Berscheid¹⁹

Table 4. Preferred 4 types of non-verbal love signals between young Men and Women*

Non-verbal signal type	Men (n = 38)	Women (n = 25)
eye contact	15	5
body touch	10	8
smile	9	10
send gift	9	1
write in paper/letter	9	4
hug	7	11
looking at eyes for a long time	5	0
send email	5	8
kiss	4	6
Total no. of tabulated signals [△]	73	53

*Question asked: 'If you love a person, write four types of non-verbal signals which you can send to that person.'

△As each student had to write 4 signals, acceptable responses under both men and women categories were 152 and 100 respectively. Only the signals ranking from 1 to 9 are indicated here.

as their first choice. Other two preferred non-verbal signals for both sexes are body touch and smile. Many had preferred physical signals in preference to mental signals (such as crying, changing one's behavior following criticism from loved one). Even among the physical signals, none mentioned changing hairstyle, face make up and dress selection to accommodate the interest of loved one.

Akin to the dichotomous division of stress by Hans Selye²⁷) into eustress (good stress) and distress (bad stress), we propose a dichotomous division of 'love' into *eu* (true)-love and *pseudo* (false) love. Our definitions are as follows:

Eu-love: An altruistic, inter-sexual or intra-sexual bond, having physical, chemical and emotional dimensions which links two individuals via verbal and non-verbal signals; by enhancing the vitality component of each individual, *eu*-love suppresses the dominancy of thanatos component of the same individual. [40 words]

Pseudo-love: An egoistic, inter-sexual or intra-sexual bond, having physical, chemical and emotional dimensions which links two individuals via verbal and non-verbal signals; by negating the vitality component of one individual, *pseudo*-love may enhance the dominancy of Thanatos component of that particular individual. [41 words]

The key terms in distinguishing *eu*-love and *pseudo*-love are 'altruistic' and 'egoistic' respectively. As David L. Hull (1935-2010), an evolutionary theorist and science philosopher, had observed "An altruistic act is one designed primarily to aid someone else, possibly at some personal risk. The fact that an altruistic act may also benefit the person performing it does not preclude its being altruistic as long as this reciprocal benefit is incidental. A selfish act, on the other hand, is one designed primarily to aid oneself even at the expense of others, although others might incidentally receive some benefit from the act."²⁸)

Our definitions for *eu*-love and *pseudo*-love incorporate Sigmund Freud's psychoanalytic theory of Eros-Thanatos basic instincts. While Eros personify the life-force and sexual instinct, Thanatos represents the

death instinct directed toward destruction of life^{29,30}. Both, *eu*-love and *pseudo*-love do not appear in Corsini's *Dictionary of Psychology*³¹, though it includes 26 terms beginning with *eu*- prefix and 64 terms beginning with *pseudo*- prefix. We hold the view that love taxonomists among psychologists have failed to take into account the *pseudo* (false) love phenomenon in their categories.

DISCUSSION

The study of love signals exchanged between loved ones and the analysis of such signals seems an interesting area which demands in-depth study. Among the non-verbal signal types, covert (secret) signals and overt (open) signals should be distinguished. Eye contact and body touch are overt signals. But, kiss and crying are covert signals for many Japanese. Though kiss was included by both sexes and ranked within top 9 non-verbal love signals, none of the 252 acceptable responses from both sexes included crying (Table 4). The omission of crying could probably be due to shame of admitting such a behavior openly.

The data presented in Table 4 also reinforces what Darwin had written about love and kissing. According to Darwin, "A strong desire to touch the beloved person is commonly felt; and love is expressed by this means more plainly than by any other. Hence we long to clasp in our arms those whom we tenderly love. We probably owe this desire to inherited habit, in association with the nursing and tending of our children, and with the mutual caresses of lovers."³² Furthermore, on kissing, Darwin wrote "It is so far innate or natural that it apparently depends on pleasure from close contact with a beloved person."³² The data presented in Table 4 have limitations; small sample size and an exploratory survey on convenience sample. Nevertheless, we have explored the feasibility of a large scale study in a non-WEIRD sample²¹.

Adultery or infidelity is a serious issue in love relationships³³⁻³⁹. As of now, many of the proposed love types have failed to take into account infidelity among partners. We believe that infidelity is nothing but cheating. Thus, we propose two hypotheses, based on pseudo-love's link to cheating, under a name derived from the combination of two alphabets from our first names 'Sayuri' as follows:

Sayuri trio hypothesis 1: Pseudo-love is directly proportional to cheating, either by one partner or by both.

Sayuri trio hypothesis 2: Eu-love is inversely proportional to cheating, and is an anti-dote to cheating.

Contrary to our proposed hypotheses, from a sample of 40 British men (aged 18-21 years), Anderson had presented data that those "who cheat do so not because of lost love, but instead cheating represents an attempt to rectify conflicting desires for monogamy and recreational sex."³⁷ Whether this finding is universal and pertinent to other nationalities deserves confirmation.

At least eight serious problems faced by contemporary Japanese society can be linked to pseudo-love (leading to 'love loss' and cheating. These are, increasing divorce rate and single motherhood⁴⁰⁻⁴²), adultery or infidelity^{43,44}, sex offenses of teachers on students⁴⁵, intimate partner violence (IPV) or domestic violence (DV) against women⁴⁶⁻⁵³, violence against children including child pornography^{54,55}, bullying (*ijime*)⁵⁶⁻⁵⁹, high school girls' *joshi kosei* (JK) business/compensated dating/concealed prostitution⁶⁰⁻⁶⁴, and selective abortion⁶⁵⁻⁶⁷. These eight societal problems are not exclusive from each other. In fact, many have overlapping boundaries, because all are linked directly or semi-directly to pseudo-love. We also note that Mother Teresa's strong admonition against selective abortion by mothers in her Nobel Peace Prize address was indeed a plea against *pseudo*-love¹⁰.

We also wish to note that some relationships may be initiated with *eu*-love, but with time slide towards *pseudo*-love. Societal problem of increasing divorce rate and single motherhood as well as IPV against women may fall into this category. The precipitating factors (such as alcohol and/or drug use) which influence this transformation from *eu*-love to *pseudo*-love deserve serious attention. Other types of relationships like concealed prostitution between old men and teenage girls or young nubile women may in fact be initiated by *pseudo*-love alone to satisfy the sexual needs of one individual and financial needs of other individual.

We are not the first to infer that answering the question 'What is love?' posed by Shakespeare is too complex. Why? Love involves an interplay of at least eleven interacting factors (brain centers, cheating, decision making, emotion, hormones, intimacy, neurotransmitters, passion, protection, signals and time sense). In this communication, we introduce two new terms, *eu-love* and *pseudo-love* to love semantic ter-

minology. As these two terms have not appeared either in any of the standard English dictionaries or in Pub Med and ISI Web of Science databases as of now, we presume that they have not been used by love taxonomists and they deserve recognition.

ACKNOWLEDGEMENT

We thank the students who participated in the love signal survey.

REFERENCES

- Bartels A, Zeki S. The neural basis of romantic love. *Neuroreport* 2000; 11(17): 3829-3834.
- Fisher H, Aron A, Brown LL. Romantic Love: an fMRI study of a neural mechanism for mate choice. *J Comp Neurol* 2005; 493: 58-62.
- Aron A, Fisher H, Mashek DJ, Strong G, Li H, Brown LL. Reward, motivation, and emotion systems associated with early-stage intense romantic love. *J Neurophysiol* 2005; 94: 327-337.
- Fisher HE, Aron A, Brown LL. Romantic love: a mammalian brain system for mate choice. *Phil Trans Roy Soc B* 2006; 361: 2173-2186.
- Zeki S. The neurobiology of love. *FEBS Lett* 2007; 58: 2575-2579.
- Debiec J. From affiliative behaviors to romantic feelings: a role of neuropeptides. *FEBS Lett* 2007; 58: 2580-2586.
- Young L. Love: Neuroscience reveals all. *Nature* 2009; 457: 148.
- Ehrenfeld JG. Idea of a love drug was no mystery to Shakespeare. *Nature* 2009; 457: 1079.
- The Compact Edition of the Oxford English Dictionary*, vol. 1, A - O, Oxford University Press, Oxford, 28th printing, 1989, pp 1669-1670.
- Mother Teresa Nobel Lecture. Nobelprize.org. 9 June 2011 http://nobelprize.org/nobel_prizes/peace/laureates/1979/teresa-lecture.html (accessed June 9, 2011).
- Hendrick C, Hendrick SS. A theory and method of love. *J Person Soc Psychol* 1986; 50(2): 392-402.
- Hatfield E, Sprecher S. Measuring passionate love in intimate relationships. *J Adolescence* 1986; 9: 383-410.
- Sternberg RJ. A triangular theory of love. *Psychol Rev* 1986; 93: 119-135.
- Sternberg RJ. Triangulating Love, In: *The Psychology of Love*, Sternberg RJ and Barnes ML (eds.), Yale University Press, New Haven, 1988, pp. 119-138.
- Hazan C, Shaver P. Romantic love conceptualized as an attachment process. *J Person Soc Psychol* 1987; 52(3): 511-524.
- Fehr B. Prototype analysis of the concepts of love and commitment. *J Person Soc Psychol* 1988; 55(4): 557-579.
- Fehr B, Russell JA. The concept of love viewed from a prototype perspective. *J Person Soc Psychol* 1991; 60(3): 425-438.
- Aron A, Westbay L. Dimensions of the prototype of love. *J Person Soc Psychol* 1996; 70(3): 535-551.
- Berscheid E. Love in the Fourth dimension. *Annu Rev Psychol* 2010; 61: 1-25.
- Hendrick C, Hendrick SS. Research on love: does it measure up? *J Person Soc Psychol* 1989; 56(5): 784-794.
- Henrich J, Heine SJ, Norenzayan A. Most people are not WEIRD. *Nature*, 2010; 466: 29.
- Brosnan SF, Bshary R. Cooperation and deception: from evolution to mechanisms. *Phil Trans R Soc B* 2010; 365: 2593-2598.
- Ghoul M, Griffin AS, West SA. Toward an evolutionary definition of cheating. *Evolution*, 2014; 68(2): 318-331.
- Jones EI, Afkhami ME, Akcay E, Bronstein JL, Bshary R, Frederickson ME, Heath KD, Hoeksma JD, Ness JH, Pankey MS, Porter SS, Sachs JL, Scharnagl K, Friesen ML. Cheaters must prosper: reconciling theoretical and empirical perspectives on cheating in mutualism. *Ecol Lett* 2015; 18: 1270-1284.
- Williams LR, Hickie KE. 'He cheated on me, I cheated on him back': Mexican American and White adolescents' perceptions of cheating in romantic relationships. *J Adolescence* 2011; 34: 1005-1016.
- Nishidoji A. The science of love popular among female students. *Daily Yomiuri* (Tokyo), Sept. 27, 2012.
- Selye H. *The Stress of My Life: a scientist's memoirs*, McClelland and Stewart Ltd, Toronto, 1977.
- Hull DL. Altruism in science: a sociobiological model of cooperative behavior among scientists. *Anim Behav* 1978; 26: 685-697.
- Appiganesi R. *Freud for Beginners*, Pantheon Books, New York, 1979, pp. 150-151.
- Gay P. *Freud: A Life for Our Time*, W.W. Norton & Co, New York, 1988, pp. 401-402.
- Corsini R. *The Dictionary of Psychology*, Brunner-Routledge, New York, 2002.
- Darwin C. *The Expression of the Emotions in Man and Animals*, with commentaries by Paul Ekman, 3rd ed., Oxford University Press, New York, 1998 (orig. published 1872).

- 33) Roscoe B, Cavanaugh LE, Kennedy DR. Dating infidelity: behaviors, reasons and consequences. *Adolescence* 1988; 23: 35-43.
- 34) Greely A. Marital infidelity. *Society* 1994; 31(4): 9-13.
- 35) Drigotas SM, Safstrom CA, Gentilia T. An investment model prediction of dating infidelity. *J Person Soc Psychol* 1999; 77(3): 509-524.
- 36) Brand RJ, Markey CM, Mills A, Hodges SD. Sex differences in self-reported infidelity and its correlates. *Sex Roles* 2007; 57: 101-109.
- 37) Anderson E. 'At last with cheating there is an attempt at monogamy': cheating and monogamism among undergraduate heterosexual men. *J Soc Person Relationships* 2010; 27(7): 851-872.
- 38) Walters AS, Burger BD. 'I love you, and I cheated': Investigating disclosures of infidelity to primary romantic partners. *Sex Cult* 2013; 17: 20-49.
- 39) Leeker O, Carlozzi A. Effects of sex, sexual orientation, infidelity expectations, and love on distress related to emotional and sexual infidelity. *J Marital Fam Therapy* 2014; 40(1): 68-91.
- 40) Sakata K, McKenzie CR. The impact of divorce precedents on the Japanese divorce rate. *Math Computers Simul* 2009; 79: 2917-2926.
- 41) Raymo JM, Zhou Y. Living arrangements and the well-being of single mothers in Japan. *Popul Res Policy Rev* 2012; 31: 727-749.
- 42) Raymo JM, Park H, Iwasawa M, Zhou Y. Single motherhood, living arrangements, and time with children in Japan. *J Marriage Fam* 2014; 76: 843-861.
- 43) Moore KL. Sexuality and sense of self in later life: Japanese men's and women's reflections on sex and aging. *J Cross Cult Gerontol* 2010; 25: 149-163.
- 44) Lin HS. 'Playing like Men': The extramarital experiences of women in contemporary Japan. *Ethnos: J Anthropol* 2012; 77(3): 321-343.
- 45) Anon. Sex abuse by teachers up 40% since 1999. *Daily Yomiuri* (Tokyo), Feb.22, 2011.
- 46) Yoshihama M. Policies and services addressing domestic violence in Japan: from non-interference to incremental changes. *Women Stud Int Forum* 2002; 25(5): 541-553.
- 47) Sano S, Kobayashi N, Nomura S. Impact on psychotherapeutic process of disclosure of traumatic sexual abuse. *Int Med J* 2003; 10(1): 13-21.
- 48) Nonoyama M, Nagai Y, Kato S, Ogasawara K, Emori Y. Experience of sexual violence among sexually experienced Japanese teenage girls and influencing factors. *Rep Med Biol* 2008; 7: 181-187.
- 49) Kyoto News: 33% of wives report being abused by husbands. *Daily Yomiuri* (Tokyo), March 25, 2009.
- 50) Inami E, Kataoka Y, Eto H, Horiuchi S. Intimate partner violence against Japanese and non-Japanese women in Japan: A cross-sectional study in the perinatal setting. *Jpn J Nurs Sci* 2010; 7: 84-95.
- 51) Kataoka Y, Yaju Y, Eto H, Horiuchi S. Self-administered questionnaire versus interview as a screening method for intimate partner violence in the prenatal setting in Japan: a randomized controlled trial. *BMC Pregnancy Childbirth* 2010; 10: 84
Doi: 10.1186/1471-2393-10-84.
- 52) Nagae M, Lancy BL. Japanese women's perceptions of intimate partner violence (IPV). *J Interpers Violence* 2010; 25(4): 753-766.
- 53) Kita S, Kataoka Y, Porter SE. Prevalence and risk factors of intimate partner violence among pregnant women in Japan. *Health Care Women Int* 2014; 35(4): 442-457.
- 54) Tanoue K, Matsui K. Differences between abusive head trauma and physical abuse in Japan. *Pediat Int* 2015; 57: 845-848.
- 55) Baba S, Goto A, Reich MR. Recent pregnancy trends among early adolescent girls in Japan. *J Obstet Gynecol Res* 2014; 40(1): 125-132.
- 56) Kanetsuna T, Smith PK. Pupil insights into bullying, and coping with bullying: a bi-national study in Japan and England. *J Sch Violence* 2002; 1(3): 5-29.
- 57) Kanetsuna T, Smith PK, Morita Y. Coping with bullying at school: children's recommended strategies and attitudes to school-based interventions in England and Japan. *Aggressive Behav* 2006; 32: 570-580.
- 58) Udris R. Cyberbullying among high school students in Japan: Development and validation of the online disinhibition scale. *Computers Hum Behav* 2014; 41: 253-261.
- 59) Tsuno K, Kawakami N, Tstutsumi A, Shimazu A, Inoue A, Odagiri Y, Yoshikawa T, Haratani T, Shimomitsu T, Kawachi I. Socioeconomic determinants of bullying in the workplace: a national representative sample in Japan. *PLoS ONE* 2015; 10(3): e0119435. Doi:10.1371/journal.pone.0119435.
- 60) Anon. Tour shows dangers facing high school girls in shady 'JK business'. *Asahi Shimbun* (Tokyo), Oct 3, 2014. (digital archives, accessed Feb. 21, 2016)
- 61) Osaki T. Notorious 'JK' business exploits troubled high school girls for sex. *Japan Times* (Tokyo), Nov. 4, 2014. (digital archives, accessed Feb. 21, 2016)
- 62) Okubo M. Interview/ Yumeno Nito: Havens needed for schoolgirls in sleazy 'JK' business. *Asahi Shimbun* (Tokyo), Dec. 22, 2014. (digital archives, accessed Feb. 21, 2016)
- 63) Anon. Police struggle to put squeeze on slippery school girl sex joints. *Asahi Shimbun* (Tokyo), Sept. 10, 2015. (digital archives, accessed Feb. 21, 2016)
- 64) Osaki T. U.N. rapporteur urges crackdown on impunity for child sex offenders. *Japan Times* (Tokyo), Oct. 26, 2015. (digital archives, accessed Feb. 21, 2016)
- 65) Baba S, Tsujita S, Morimoto K. The analysis of trends in induced abortions in Japan - an increasing consequence among adolescents. *Envir Health Prev Med* 2005; 10: 9-15.
- 66) Sekiguchi A, Ikeda T, Okamura K, Nakai A. Safety of induced abortions at less than 12 weeks of pregnancy in Japan. *Int J Gynecol Obstet* 2015; 129: 54-57.
- 67) Mizuno M. Clinical experience and perception of abortion: a cross-sectional survey of gynecologists in Japan. *Sex Rep Healthcare* 2015; 6: 255-256.