



Tocophobia among female undergraduate students at Bayero university, Kano Northwestern Nigeria

Abubakar Musa¹, Usman Muhammad Ibrahim², Rabiuh Ibrahim Jalo², Usman Abba³, Muhammad Bashir Jibril⁴

¹ Department of Community Medicine, Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, Nigeria

² Department of Community Medicine, Bayero University and Aminu Kano Teaching Hospital, Kano, Nigeria

³ State Specialist Hospital Damaturu, Yobe State, Nigeria

⁴ Department of Community Medicine, Amadu Bello University, Zaria, Nigeria

Abstract

Introduction: The fear of childbirth (tocophobia) is a major health problem that is often neglected in the society especially amongst nulliparous women and primigravidas. Its associated with increasing rate of caesarean section without a medical indication.

Objectives: To determine prevalence of tocophobia among female undergraduate students at Bayero University, Kano Northwestern Nigeria.

Methodology: Descriptive cross-sectional study was conducted among 291 respondents were selected by multi-stage sampling technique. Data was collected using semi-structured, self-administered, pre-tested, questionnaire and analysed with IBM SPSS version, a $p < 0.05$ was considered statistically significant.

Results: The mean age of the respondents was 22.50 ± 3.27 . The prevalence of fear of pregnancy and childbirth was 59.1% while 40.9% have no fear of becoming pregnant and childbirth. None of the socio-demographic variables was found to be significantly associated with fear of childbirth but some of the reasons are fear of complication at delivery or during labour, lack of antenatal care access, lack of trust in the obstetric team.

Conclusion: Fear of pregnancy and childbirth is common among undergraduates with some of the identified reasons; fear of complication at delivery or during labour, lack of antenatal care access, lack of trust in the obstetric team or fear of their competence, prior history of psychiatric illness, sexual abuse at childhood, family history of traumatic delivery. There is need for creating awareness on maternal health to the undergraduate students regardless of their marital status and invariably will address the tocophobia and its effects.

Keywords: tocophobia, prevalence, undergraduates, Kano

Introduction

Having a baby is usually an exciting time for women, one that is full of joy and happiness. This is not the case for some mothers-to-be, however, as they are encumbered by a morbid dread, and fear, of pregnancy and the birthing process. Although many overcome their anxiety with the help of their partner, family or friends and the support of those caring for them, for others the fear and anxiety remain intense and can best be described as “*a morbid dread of childbirth*”^[1]. Medical anthropologist Davis-Floyd observed that childbearing women in North America super-value and uncritically accept obstetric technology, because not “*using it looks like you are giving your baby substandard care*”.¹ This trend toward medicalized birth is exacerbated by media depictions of birth as inherently risky, unpredictable, and fraught with complications and medical labels that instil doubt like “*trial of labour,*” “*failure to progress,*” “*failed induction,*” “*incompetent cervix,*” and “*inadequate pelvis*”^[2].

To experience pregnancy with such a degree of apprehension is an obvious detriment to the mother and her unborn child. Although women in developed countries face minimal risks of adverse outcomes as compared to women in developing countries, many experience fear of childbirth (FOC) in response to the unknown, unpredictable and uncontrollable nature of the birth event. However, FOC is a continuum ranging from negligible to extreme fear^[3].

The word tocophobia comes from the Greek word tokos, meaning ‘childbirth’ and phobos, meaning ‘fear’. Tocophobia is an intense anxiety or fear of pregnancy and childbirth, with some women avoiding pregnancy and childbirth altogether. Swedish researchers explored the phenomenon of anxiety and fear in childless women as well as in those with children. Tocophobia can be divided into primary and secondary components. Primary tocophobia may have its onset in adolescence, affecting nulliparous women to such a degree that some women never bear a child^[1]. When dread of childbirth predates the first conception, this is primary tocophobia. This dread has led women to avoid pregnancy for fear of dying, despite their desperately wanting children, many of these are never able to overcome this fear scrupulously use contraception, often using one or more methods simultaneously ‘just in case’, although a few women remain childless, others decide to adopt a child^[1]. While secondary tocophobia may be associated with a previous traumatic birth experience such as stillbirth, termination of pregnancy, an obstetric event such as unexplained stillbirth or delivery of a malformed child, or even a normal delivery. Women may also be concerned with pain, their own incapability, possible obstetric injuries, lack of control, lack of partner or familial support and, finally, loss of the baby’s, or their own, life^[1].

Negative feelings towards childbirth which can be passed between mother and daughter, a result of sexual abuse, or

arises after seeing a film depicting childbirth early in life with no support or explanation. Although some women are able to overcome the avoidance of pregnancy, mainly due to a huge desire to become a mother, they still harbour a deep fear. This may result in a decision to terminate the pregnancy or to seek an elective caesarean section as their only alternative. About 80% of pregnant women express worries and fears in relation to their pregnancy or upcoming childbirth. For a great deal of these women the fears are strong enough to be clinically relevant. However, estimations of prevalence are equivocal, presumably due to the lack of clear-cut definitions and conceptualizations of the concept to be measured. A Primigravida and multigravida display similar symptoms, their fear being so intense that it forces them to request a caesarean section, as labour and vaginal birth are too difficult to contemplate. Behavioral, emotional or physical symptoms may also be present in the form of sleeplessness, crying episodes, restlessness or nervousness [4].

The prevalence of fear of childbirth from the previous study conducted in USA with a sample of 280 women ranges from 5% to 52%. In another study report 10% in a sample of 2,662 Finnish women and 5% in a sample of 8,000 Swedish women found that 20% of women in developed countries, such as Sweden and Australia, experienced childbirth fear. In one sample, 25% of the participants reported high levels of fear, 54% reported moderate levels of fear, and 21% reported low levels of fear. The broad range of prevalence across study populations suggests that FOC is deeply grounded in culture and context.⁵ Around 20% of birthing women report high levels of childbirth fear which has potential impacts on women's emotional health, preparation for birth, and birth outcomes but personal and external factors contribute to childbirth fear [6].

Moreover, woman's mental state, particularly her anxiety level during pregnancy and labour, may contribute to complications of labour and the degree of interventions that are required. After delivery, the woman's self-assessment of how she has coped is likely to have postnatal psychological repercussions for her, the baby and, in turn, the whole family. Anxiety during the antenatal period has been associated with an increased risk of postnatal depression, bonding and attachment towards the baby can also be affected. Additionally, anxiety can lead to an increased number of requests for caesarean and instrumental deliveries. In one Scandinavian study, anxiety and fear were associated with premature birth, post-term delivery, low birth weight and intrauterine growth retardation (IUGR) of the fetus. High levels of anxiety, expressed early or during pregnancy, should alert health professionals to acknowledge the women's distress, react in a supportive manner, and, if necessary, obtain appropriate consultation [7].

Apart from the burden, it is also observed that the lack of a social network, a low educational level or unemployment and young age were important characteristics associated with fear of childbirth [1, 8]. This study therefore aimed to assess the determinants of fear of childbirth among undergraduate students in Bayero University, Kano.

Methodology

Study area

Bayero University Kano (BUK) is a university situated in Kano, Kano State, Nigeria. It was established in October

1960 as Abdullahi Bayero College under the then Northern Nigeria University (now Ahmadu Bello University). It attained University status in October 1977 and was renamed Bayero University Kano (Immortalized after the late Emir of Kano, Alhaji Abdullahi Bayero who lived between 1926-1953) [29]. The University is a second generation University with four campuses namely the old campus, the new campus, the Aminu Kano Teaching Hospital (AKTH) campus and the school of continues education campus Dala and offers a number of courses ranging from undergraduate to postgraduate courses. These courses are run in the University's 16 faculties and numerous research and training centres and one school of general studies [9]. The Total current student enrolment is 29,777 (21,682 undergraduates, 5,344 postgraduates, and 2,751 other students). The male to female ratio is approximately 2.5:1. The students are from all religions, numerous ethnicity and states from Nigeria including few foreigners [9].

Study design

Descriptive cross-sectional study was employed. The study population comprised of undergraduate students of Bayero University Kano, irrespective of the year or course of study and those that were not around and sick during the study were excluded.

Study population

Sample size determination

The minimum sample size required was calculated using fisher's formula for randomised clinical with $Z_{\alpha} = 1.96$, the probability of type II error (β) of Power set at 80% = 0.84, to cater for non-response 10% was added, a total of 291 participants obtained.

Sampling technique

A multistage sampling method was used for selection of 291 undergraduate students of the University. Eight faculties (50% of the faculties) were randomly selected out of 16 faculties using table of random numbers. Eighteen departments (50% of the departments) were further selected randomly from the selected faculties. In each department, a list of undergraduate students was obtained and proportionate allocation was done to select 291 undergraduate students from each department.

Data collection and analysis

A semi-structured, self-administered, pre-tested, questionnaire was used to collect data after seeking an informed consent on the following: The socio-demographic data, prevalence of fear of childbirth use and their knowledge of fear of child birth.

Data analysis

The data collected was analysed using IBM SPSS Version 20.0. Descriptive statistics was depicted using absolute numbers, tables, simple percentages, range, measures of central tendency and measures of dispersion as appropriate. Charts were also used in the depictions. The chi-square test was applied to determine association between knowledge of fear of child birth with socio-demographic variables, a $p < 0.05$ was considered statistically significant.

Ethical considerations and preparation for data collection

A letter of introduction explaining the aims and objectives of the study was collected from the department of community medicine, faculty of Clinical Sciences, Bayero University Kano, to the Dean of Student Affairs, Bayero University Kano and ethical approval of the study was obtained. An advocacy visit was also paid to the University Health Department where the purpose of the study was explained and confidentiality assured. Following the ethical approval, informed consent of the respondents was sought by explaining the aims and objectives of the study to them as well as the fact that their responses will be handled confidentially and will be used only for the purpose of the study.

Results

The mean age (\pm Standard Deviation, SD) of the respondents was 22.50 ± 3.27 years, female respondents within the age range of 16-20 constitutes the highest number of respondents 166 (57.0%) and age range of 31-35 having the least number of 1 (0.3%) then 178 (61.2%) were Hausa by tribe, followed by Fulani (16.1%) and other tribes makes up (6.5%). Majority of the respondents are Muslims 258 (88.7%), whereas Christians constitutes 33 (11.3%), meanwhile 219 (75.3%) were single 67 and (23%) married respectively.

Table 1: Socio-demographic characteristics

Variables	Frequency	Percentages (%)
Age groups		
16 – 20	166	57.0
21 – 25	83	28.5
26 – 30	5	1.7
31 - 35	1	0.3
Mean \pm SD	22.50 ± 3.27	
Ethnicity		
Hausa	178	61.2
Fulani	47	16.1
Yoruba	34	11.7
Igbo	13	4.5
Others	19	6.5
Religion		
Islam	258	88.7
Christianity	33	11.3
Marital status		
Single	219	95.3
Married	67	23.0
Divorced	1	0.3
Widowed	1	0.3
Separated	3	1.0

Table 2: Distribution of respondents according to level of study in the university

Level	Frequency	Percentage (%)
100	48	16.5
200	63	21.6
300	39	13.4
400	74	25.4
500	34	11.7
600	33	11.3
TOTAL	291	100

Level 400 students constitutes the highest number (74), followed by level 200 (63), level 100 (48), level 300 (39), level 500 (34), level 600 (33).

Table 3: Distribution of respondents' number of children.

Number of children	Frequency	Percentage (%)
0	238	81.8
1	20	6.9
2	24	8.2
3	6	2.1
4	3	1.0
Total	291	100

Students with no child constitutes the highest number 238 (81.8) while those with four children are 3 (1.0).

Prevalence of fear of childbirth

A total number of 172 (59.1%) respondents have fear of pregnancy and childbirth while 119 (40.9%) have no fear becoming pregnant and childbirth.

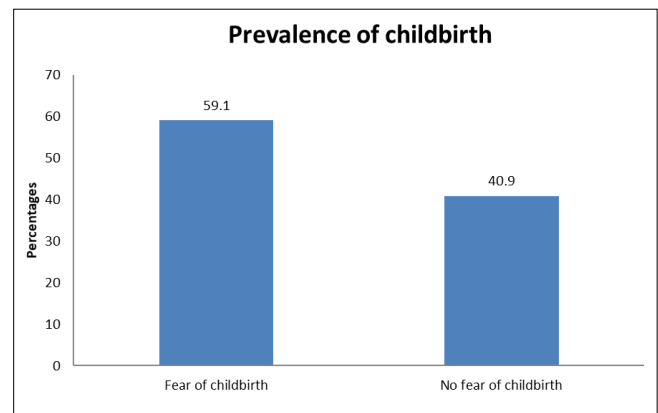


Fig 1: Respondents' prevalence of fear of childbirth

Reasons for fear of childbirth

About 60.1% of respondents have no family history of traumatic delivery and 39.9% have a family history while 44.3% have been shown to express the fear of pregnancy complication and those with no fear of pregnancy complication constitutes 162 (55.7%). However, 12% of the respondents were reported to have been sexually abused in the past while and those that fear the competency of the obstetric team was 23.7%

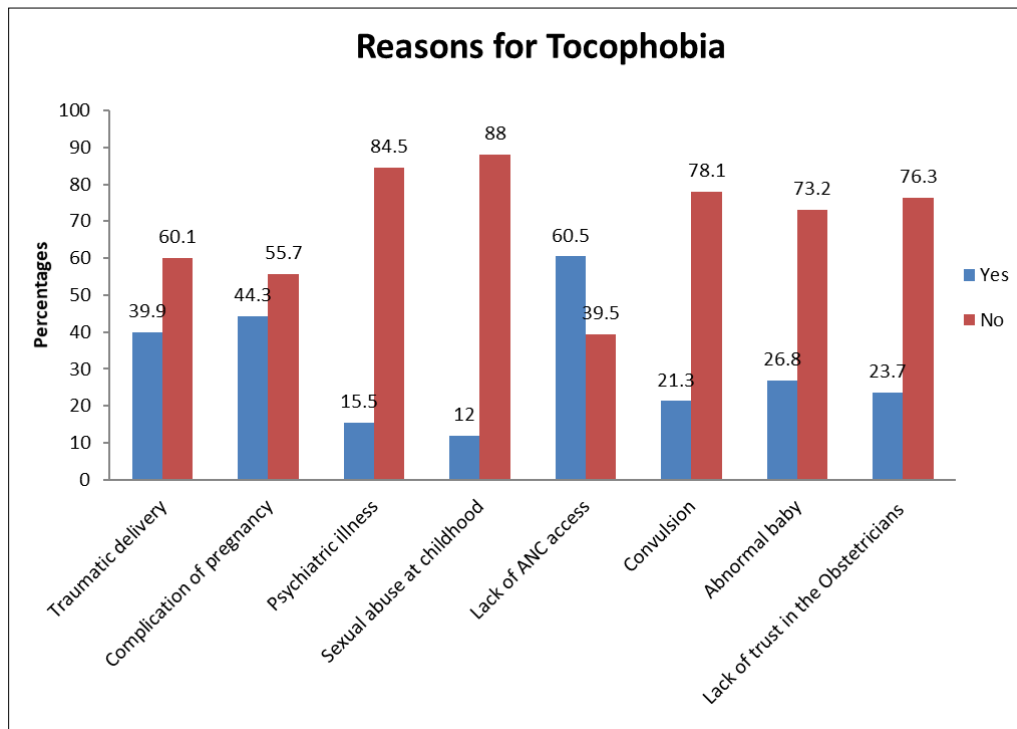


Fig 2: Respondents' reasons for fear of childbirth

Table 4: Association between socio-demographic characteristics and tocophobia

Variables	Tocophobia	No tocophobia	Total	p- value
Age groups				
<22	112	60	172	>0.05
>22	60	59	119	
Ethnicity				
Hausa	106	72	178	>0.05
Fulani	26	21	47	
Yoruba	21	13	34	
Igbo	5	8	13	
Others	14	5	19	
Religion				
Islam	154	104	258	>0.05
Christianity	18	15	33	
Marital status				
Single	132	87	219	>0.05
Married	36	31	67	
Divorced	1	0	1	
Widowed	1	0	1	
Separated	2	1	3	
Level of study				
100	36	12	48	>0.05
200	39	24	63	
300	19	20	39	
400	41	33	74	
500	21	13	34	
600	16	17	33	
Number of children				
None	142	96	238	>0.05
One	15	5	20	
Two	9	15	24	
Three	4	2	6	
Four	2	0	2	
Others	0	1	1	

There is no significant association between age, ethnicity, religion, marital status, level of study and the number of children and tocophobia (table 4).

Discussion

Many risk factors are attributed to the development of tocophobia among undergraduate females students, ranging from socio-demographic characteristics, psychiatric illnesses, poor social support, family history of traumatic delivery, prior history of bad obstetric experience sexual abuse in childhood, delivery of babies with congenital anomaly, lack of trust in the obstetric team or even fear of their competence and many more. In this study, respondents were assessed for most of these risk factors. At least one in three respondents reported having a prior history of terrible pregnancy/delivery experience which predisposed them to increased risk of tocophobia, and this figure is in conformity with the prevalence of terrible pregnancy experience. However, other studies have reported prevalence of terrible pregnancy or delivery experience as high as 52% and the other as low as 7.6%. It was found that One in ten of the respondents reported prior history of being sexually abused during childhood, this is contrary to the study carried out by Heimstad et al. which reported high prevalence of tocophobia due to complicated vaginal delivery among those who were sexually abused in childhood, the disparity could have been due to the fact that sexual abuse is under-reported in this part of the world that the study was carried out.²⁹ Almost half of the respondents reported fear of development of pregnancy complication(s) and few have had history of prior psychiatric illness which is in conformity with the study of Sjogren et al.t that there is some evidence that previous psychological morbidity puts a woman particularly at increased risk.²⁹ Similarly the study of Storksen et al. showed that anxiety and depression increased the prevalence of childbirth fear, although the majority of women with fear of childbirth had neither anxiety nor depression.¹¹ In contrast with Australian study the prevalence of tocophobia associated with intrusive thoughts and intense anxiety is about 10%.

This study found the prevalence of tocophobia to be 59.1%, though some studies have reported the prevalence of

tocophobia as high as 78%, other studies report 52%, 10% and 5%.¹⁵ A study in South Africa reported significant fears of a newborn abnormality, pain, baby dying, operative interventions such as episiotomy and loss of marital closeness, but no figure has been given.²¹ The prevalence rates thus vary among studies, depending, among others, on factors like timing of the assessment and the cultural context.¹⁰ Majority of the respondents have read about pregnancy and childbirth whereas few have not, in contrast with a study conducted in United States that revealed 43% of women had no awareness of exposure to preconception health information.¹¹

Conclusion

High prevalence of tocophobia was observed among unmarried female undergraduates students. The reasons identified for the fear of childbirth were fear of complication at delivery or during labour, lack of antenatal care access, elements of fear/basis for fear, lack of trust in the obstetric team or fear of their competence, prior history of psychiatric illness, lack of social/partner support, terrible experience while pregnant or at delivery, sexual abuse at childhood, family history of traumatic delivery but with no statistically significant associations. There is need for extending maternal health education to female undergraduates regardless of their marital status.

Competing interests

Nil

Authors' contributions

Contributed equally

Reference

1. Roland-price A, Chamberlain Z. Management of tocophobic women. *Preconception Med.*, 281-288.
2. The University of British Columbia. Fear of childbirth among young Canadians, 2012.
3. Kjærgaard H, Wijma K, Dykes AK, Alehagen S. Fear of childbirth in obstetrically low-risk nulliparous women in Sweden and Denmark. *J Reprod Infant Psychol*,2008;26(4):340-350. doi:10.1080/02646830802408498
4. Rondung E, Thomtén J, Sundin Ö. Psychological perspectives on fear of childbirth. *J Anxiety Disord.* 2016;44:80-91. doi:10.1016/j.janxdis.2016.10.007
5. Roosevelt L, Low LK. Exploring Fear of Childbirth in the United States Through a Qualitative Assessment of the Wijma Delivery Expectancy Questionnaire. *JOGN*, 2016;45(1):28-38. doi:10.1016/j.jogn.2015.10.005
6. Toohill J, Fenwick J, Gamble J, Creedy DK, Buist A, Ryding EL. Psycho-Social Predictors of Childbirth Fear in Pregnant Women: An Australian Study, 2014;(June):531-543.
7. Hofberg K, Ward MR. Fear of pregnancy and childbirth, 2003, 505-510.
8. Laursen M, Hedegaard M, Johansen C. Fear of childbirth: Predictors and temporal changes among nulliparous women in the Danish National Birth Cohort. *BJOG An Int J Obstet Gynaecol*, 2008. doi:10.1111/j.1471-0528.2007.01583.x
9. Navarro-Cremades et al. Fear of becoming pregnant among female healthcare students in Spain, 2015.
10. Klabbers GA. Severe Fear of Childbirth : Its Features , Assesment , Prevalence , Determinants , Consequences and Possible Treatments,2016:25:107-127.
11. Paulsen AM. Cornerstone: A Collection of Scholarly and Creative Works for Preconception Health Knowledge among Undergraduate Women, 2017, 53. <http://cornerstone.lib.mnsu.edu/etds%0Ahttp://cornerstone.lib.mnsu.edu/etds>.
12. Bakshi R, Mehta A, Mehta A, Sharma B. Tokophobia: Fear Of Pregnancy And Childbirth. *Internet J Gynecol Obstet*,2008;10(1):1-5. doi:10.5580/6e5
13. Hofberg K, Ward MR. Fear of pregnancy and childbirth. *Postgrad Med J*,2003;79(935):505-510. doi:10.1136/pmj.79.935.505
14. Lopukhova OG, Kashshapova E V. Fear of childbirth in pregnant women: External and internal factors. *Psychol Russ State Art*,2015;8(4):114-125. doi:10.11621/pir.2015.0410
15. Paula A, Santos C, Reis M. The Fear of Childbirth : A Study in the North of Portugal,2016.
16. Toohill J, Fenwick J, Gamble J, Creedy DK, Buist A, Ryding EL. Psycho-Social Predictors of Childbirth Fear in Pregnant Women: An Australian Study. *Open J Obstet Gynecol*,2014;4(9):531-543. doi:10.4236/ojog.2014.49075
17. Salomonsson B, Gullberg MT, Alehagen S, Wijma K. Self-efficacy beliefs and fear of childbirth in nulliparous women Self-efficacy beliefs and fear of childbirth in nulliparous women,2013;(34):116-121.
18. Navarro-Cremades F, Palazón-Bru A, Arroyo-Sebastián M del Á, et al. Fear of becoming pregnant among female healthcare students in Spain. *PeerJ*. 2015;3:e1200. doi:10.7717/peerj.1200
19. Richard F, Zongo S, Ouattara F. Fear , guilt , and debt : an exploration of women ' s experience and perception of cesarean birth in Burkina Faso, West Africa,2014:469-478.
20. Bryanton J, Gagnon AJ, Johnston C, Hatem M. Predictors of women's perceptions of the childbirth experience. *JOGNN - J Obstet Gynecol Neonatal Nurs*,2008;37(1):24-34. doi:10.1111/j.1552-6909.2007.00203.x
21. Aksoy M, Aksoy AN, Dostbil A, Celik MG, Ince I. The Relationship between Fear of Childbirth and Women ' s Knowledge about Painless Childbirth. *Obstet Gynecol Int*,2014;2014:7. doi:10.1155/2014/274303
22. Hanson S, Hunter LP, Bormann JR, Sobo EJ. Paternal Fears of Childbirth : A Literature Review. *J Perinat Educ*,2009;18(4):12-20. doi:10.1624/105812409X474672
23. Gottvall K, Waldenström U. Does a traumatic birth experience have an impact on future reproduction? *BJOG An Int J Obstet Gynaecol*,2002;109(3):254-260. doi:10.1111/j.1471-0528.2002.01200.x
24. Pubmed_Result. *Water Sci Technol*,2007;56(9):8-21.
25. Dencker A, Taft C, Bergqvist L, Lilja H, Berg M. Childbirth Experience Questionnaire (CEQ): Development and Evaluation of a multidimensional instrument. *BMC Pregnancy Childbirth*,2010;10(81):8.
26. Esike CU, Onoh RC, Ewah RL, Anozie RO. Perceptions and practice of epidural analgesia among women attending antenatal clinic in FETHA. *Int J Womens Health*,2017;9:905-911.

27. Mosha TCE, Philemon N. Factors Influencing Pregnancy Outcomes in Morogoro Municipality , Tanzania,2010:12(4):249-260.
28. Agbede CO, Aja GND, Owolabi PS. Factors Influencing Pregnant Women's Utilization of Maternal Health Care Services for Delivery in Ogun State, Nigeria. Glob J Sci Front Res,2015:15(4):8.
29. Salmela-Aro K, Read S, Rouhe H, et al. Promoting positive motherhood among nulliparous pregnant women with an intense fear of childbirth: RCT intervention. J Health Psychol, 2012. doi:10.1177/1359105311421050