The First British Book about Bhutan: A Publishing History of Turner's *Account of an Embassy*

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Abstract

British political (and other) missions to Bhutan spawned scholarly publications. These included addresses delivered to the meetings of learned societies and subsequently printed in scholarly journals, or else published as books. Such publications conjured up an image of Bhutan that fit the aims and interests of the expanding British Empire, and there was a broad audience for such works, whether scholarly or popular. This article explores the publication history of the first British book concerning Bhutan, Captain Samuel Turner's *Account of an Embassy to the court of the Teshoo Lama in Tibet containing a narrative of a journey through Bootan and part of Tibet*, which appeared in 1800.

Introduction

British media portray Bhutan as a Romantic place. One book title, for example, refers to the country as the "Kingdom of the Peaceful Dragon".[1] Bhutan is known as well for being the only Buddhist kingdom and for emphasis on Gross National Happiness[2]. It is not necessarily the case, however, that those aspects of life in Bhutan that capture the British imagination are viewed in the same way by the Bhutanese. Indeed, as Françoise Pommeret has argued convincingly[3], the advent of

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[1] Hickman, Katie (1987), *Dreams of the Peaceful Dragon: A Journey through Bhutan*, London: Victor Gollanz, Ltd. 1987.

[2] See, for example, The Guardian (2012) "Gross national happiness in Bhutan: the big idea from a tiny state that could change the world". Retrieved June 13, 2016 from https://www.theguardian.com/world/2012/dec/01/bhutan-wealth-happiness-counts

[3] Pommeret, Françoise (2000). "Recent Bhutanese Scholarship in

young Bhutanese scholars trained in current historiographical methods will naturally result in exploration of different questions and problems in the historical and political development of Bhutan from those that western scholars deem important. With the rise of the Bhutanese publishing industry, marked by the approval of a Bhutanese ISBN prefix, and which enables the worldwide dissemination of knowledge beyond its borders[4], these are exciting times for the intellectual exploration of the social and cultural history of Bhutan.

The idea that the British and Bhutanese have different views on the country is nothing new. Samuel Turner's book *Account of an Embassy to the court of the Teshoo Lama in Tibet containing a narrative of a journey through Bootan and part of Tibet* was only the first of many British books to discuss Bhutan. These publications, often stemming from first-person accounts to travels in the mountain kingdom, were published successfully in Britain and achieved a broad audience throughout the long nineteenth century (almost co-terminus with a study by Sarkar and Ray[5], which was an era of British near-hegemony in the region. British interests at the time, reflected in these publications, were the people, places, plants and animals in Bhutan - but also the furtherance of British interests, whether commercial or military. As the translator's preface to the French edition states, "The English, whose daring genius led them to almost every part of the globe for commerce and to increase riches, have been careful not to neglect Tibet."

Travel books are an immensely popular literary genre. Indeed, when Gervais Clouzier and Claude Barbin published in Paris *Les Six Voyages de Jean Baptiste Tavernier, Ecuyer Baron d'Aubonne, qu'il a fait en Turquie, en Perse, et aux Indes* in 1676, that same year summaries of the book were published in English by the

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History and Anthropology," *Journal of Bhutan Studies* 2(2).

[4] Kinga, Sonam (2001). "Publications in Bhutan since the Establishment of the ISBN Agency." *Journal of Bhutan Studies* Vol 5, pp.78–93.

[5] Sarkar, Ratna and Ray, Indrajit (2007) "Political Scenario in Bhutan during 1774–1906: An Impact Analysis on Trade and Commerce" *Journal of Bhutan Studies* Volume 17, pp. 1–21.

Royal Society.[6] An English edition translated by John Phillips, *The Six Voyages of John Baptista Tavernier*, was printed in 1677 by William Godbidd and sold by Robert Littlebury[7] and Moses Pitt, the latter operating out of the traditional place in London for booksellers, St. Paul's Churchyard. Godbidd (sometimes Godbid) was best known as a printer of music; he was successful as a printer, for a survey of 1688 reports that he operated three presses, employing five workmen, and two apprentices.[8] The success of the book—other printings were made in 1678, 1680, and 1684[9]—must have whetted the appetite of publishers for more such tales of overseas adventures.

To cement the relations established after the visit of George Bogle to Tibet in 1774, Warren Hastings—Governor of the Presidency of Fort William—proposed a new mission to the country soon after receiving news of the reincarnation of the Panchen Lama. Samuel Turner, a Lieutenant in the Honourable East India Company and a relative of Hastings[10], was chosen to

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[6] Royal Society (1676) "Observations concerning some of the most considerable parts of Asia" *Philosophical Transactions of the Royal Society*, November. 711–715, and (1676) "More observations of Monsieur Tavernier's Voyages" *Philosophical Transactions of the Royal Society* December pp.751–758. The latter may contain the first Western usage of the word Boutan.

[7] The offices of Littlebury and Pitt were located in Little Britain, an area of London dominated by booksellers. Pitt was "one of the most important booksellers in the second half of the seventeenth century." Plomer, Henry R. (1907) *Dictionary of Booksellers and Printers who were at work in England, Scotland and Ireland from 1641 to 1667*, London: Bibliographical Society, p. 147.

[8] Plomer, Henry R (1907) *Dictionary of Booksellers and Printers who were at work in England, Scotland, and Ireland from 1641 to 1667.* London: Bibliographical Society, p. 83.

[9] This may have been a case of copyright violation. The book was entered into the register of the Stationer's Guild on April 13, 1677 by William Godbidd, so the other editions may have been published without permission. In The Stationer's Company (1914) *Transcript of the Register of the Worshipful Company of Stationers from 1604–1718 A.D.* (Volume 3), only the one Godbidd printing is listed, p. 34.

[10] Lee, Sydney (1899), *Dictionary of National Biography Vol. LVII Tom — Tyler* London: Smith, Elder, and Co., New York: McMillan Company, p.

lead the mission and was given his instructions on January 9, 1783[11]. After completing the mission, in 1799, he was promoted to Captain. In addition, Turner was awarded a small pension and - in January 1801, a few months after publication of *Account of an Embassy*— he was elected a fellow of the oldest and most prestigious scientific organization in the world, The Royal Society.

Turner's book, though, was not the first information that the Anglophone world had about Bhutan. John Stewart, FRS, communicated an early account of his travels to the Himalayan region in a major scholarly journal in 1777[12]. British geographer Major James Rennell FRS, who was seriously wounded during fighting at the Bhutan border, published a description of the region in 1781[13]. And one can speculate that those who had returned from the travels with George Bogle and with Samuel Turner recounted their tales in the coffee houses of eighteenth century London. By 1800, a published account of travels to the region might have seemed an extremely interesting venture to a publishing house. The expedition of Turner was a natural one to bring into book form, since several incidents of the Embassy had already been published by Turner in the journal *Asiatick Researches.*[14] The time was right to publish Turner's *Account of*

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354. Pemberton (see below) states Turner was a member of the Bengal Military Service.

[11] See Captain Robert Boileau Pemberton's "Report on Bootan", p.5 contained in Eden, Ashley (1865), *Political Missions to Bootan,* Calcutta: Bengal Secretariat Offices.

[12] Stewart, John (1777) "An Account of the Kingdom of Thibet in a letter from John Stewart Esquire FRS to Sir John Pringle, Bart. FRS." *Phil Trans Roy Soc.* vol. 67 465–492.

[13] Rennell, James (1781) "Account of the Ganges and Burrampooter Rivers". *Phil. Trans. Roy. Soc.* vol 71, pp 87–114.

[14] *The Gentleman's Magazine* in 1800 (mis)states that "Mr. T's account was first published in vol. I of the *Asiatic Miscellany*, 1789. In fact, it first appeared as Turner, Samuel (1788) "Copy of an Account given by Mr. Turner, of his Interview with Teeshoo Lama at the Monastery of Terpaling, enclosed in Mr. Turner's Letter to the Honourable the Governor General, dated Patna, 2nd March 1784" *Asiatick Researches* Vol 1 pp. 199–205 and, in the same volume, "An Account of a Journey

an Embassy[15].

Typesetting and printing

In 1800[16], W. Bulmer and Co. printed Turner's immensely successful *Account of an Embassy to the court of the Teshoo Lama in Tibet containing a narrative of a journey through Bootan and part of Tibet: To which are added views taken on the spot, by Lieutenant Samuel Davis; and observations botanical, mineralogical, and medical by Mr. Robert Saunders*. The author dedicated the book to the chairman, deputy chairman, and directors of the Honourable East India Company. Lieutenant Samuel Davis (1760–1819) of the Bengal Engineer Corps, whom Hastings appointed as surveyor for the Turner mission, eventually became a director of the same East India Company and, on June 28, 1792, was also elected a Fellow of the Royal Society[17]. Robert Saunders was a surgeon and botanist. Both Saunders and Davis had scientific papers published on their Bhutan-related work[18,19] by the Royal Society, the former before

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to Tibet", pp. 207–220, while in Volume 4 (1795) he published "Description of the Yak of Tartary, Called Soora-Goy, or the Bushy-Tailed Bull of Tibet". pp. 349–352.

[15] For a more detailed account of the author, the contributors, and the contents of the book itself, see the Introduction of Aris, Michael (1982) *Views of Medieval Bhutan: The Diary and Drawings of Samuel Davis 1783* London: Serindia Publications and Washington, DC: Smithsonian Institution Press, pp. 10–40.

[16] The dedication page is dated May 1, 1800, so publication must have taken place after that time.

[17] Davis had published several papers on Hindu astronomy, and it was on the strength of these that he appears to have been elected to the Royal Society.

[18] Saunders, Robert (1789) "Some Account of the Vegetable and Mineral Productions of Boutan and Thibet. By Mr. Robert Saunders, Surgeon at Boglepoor in Bengal [i.e. Baghalpur in Bihar]" communicated by Sir Joseph Banks, Bart., PRS. *Philosophical Transactions of the Royal Society* vol. 79, pp. 79–111.

[19] Davis, Samuel (1829) "Remarks on the Religious and Social Institutions of the Bouteas, or inhabitants of Boutan, from the Unpublished Journal of the late Samuel Davis Esq, FRS. *Transactions of the Royal Asiatic Society of Great Britain and Ireland* 2(1) pp. 491–517.

book publication and the latter posthumously. Saunders observations were incorporated as part IV four of *Account of an Embassy*.

The book was published in a quarto edition (xxviii + 473pp) that was priced at two guineas. This had a calf cover and gold stamping; on the inside, the book had marbled end papers, and was printed in eight-page signatures.[20] Furthermore, the spine had raised bands, which —although a mark of high-quality bookbinding - were becoming unfashionable in late eighteenth century Britain.

A deluxe edition was available in an Imperial quarto size with a tan calf cover and a red morocco spine label bearing the short title "Embassy to Tibet" stamped in gold. ("Morocco leather… is the finest of all leathers and most suitable for elaborately gold-tooled books."[21]) The price of this edition was four guineas.[22] One copy recently available for auction had the coat of arms of Sir Simon Richard Brisett Taylor, second baronet of Lysson Hall, set in gilt on the front cover and printed in the front end papers,[23] suggesting that the book had a wealthy clientele and that bookbinding could be carried out to order. The deluxe and regular editions were printed with the same type; the covers and the quality of paper used in printing were the only differences.
As with classical typography—"a good, readable type is an invisible type, invisible in the sense that it never conspicuously makes its presence known"[24] - the book is set with the same

[20] Signatures in the front matter are marked with lower-case letters, the text proper has signatures with capitals. As usual, various letters, such as W, are missing. After Z, Bulmer marks the signatures Aa and so forth.

[21] Diehl, Edith (1946) *Bookbinding: Its Background and Techniques volume I,* New York: Rinehart and Company, p. 37.

[22] Inflation calculators indicate that four guineas in 1800 is the equivalent of £450 at current prices, close to 40,000 BTN.

[23] Heald, Donald (2016) http://www.donaldheald.com/pages/books/29380/samuel-turner-samuel-davis-illustrator/an-account-of-an-embassy-to-the-court-of-the-teshoo-lama-in-tibet-containing-a-narrative-of-a-journey Retrieved August 30, 2016.

[24] Conkright, P.J. (1974), "Types and Times" *Journal of Scholarly*

display type throughout, with emphasis being achieved by variations within the font itself, such as a large bold initial at every chapter opening and the use of italics for subheadings. Bulmer also made extensive use of thick and thin rules, rather than swelled or "English" rules that were becoming popular in British book printing at that time. The hallmark of Bulmer's volumes was the clearness of type, rather than any type of printer's ornamentation[25]. One of the reasons for this clarity was, having been disappointed earlier in his career by the poor quality of ink obtained from outside sources, Bulmer eventually came to produce his own ink to high standards.[26]

William Bulmer had earlier established the Shakespeare Press with George Nicol and developed, with William Martin, the Bulmer typeface especially for use in those books; their famous edition of Shakespeare was printed over the years from 1790–1805, and were thus still being produced when *Account of an Embassy* was published. Bulmer was highly regarded, "As a printer of sumptuous books…William Bulmer is generally accorded first place."[27] *An Account* was one of five books printed that year by Bulmer for G. and W. Nicol28. George Nicol wrote, albeit in relation to the Shakespeare Press, that "I will venture to say that the specimens of typography which will soon appear …will convince all Europe that Mr. Bulmer is second to no man in his profession."[29] Indeed, under the influence of its President, Joseph Banks, the Fellows of the Royal Society had decided on December 22, 1791, that Bulmer should be the printer for its publications, because of the "avowed superiority of Mr. Bulmer's

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Publishing 5(2), p.126

[25] Plomer, Henry R. (1924), *English Printers' Ornaments* London: Grafton & Co., p. 103

[26] S.n. (1830), "Memoir of W. Bulmer, Esq." *The Gentleman's Magazine* vol. 148 p. 309.

[27] Plomer, Henry R. (1927) *A Short History of English Printing 1476–1900*. London: Kegan, Paul, Trench, Trübner & Co., p. 228.

[28] Isaac, Peter (1993) *William Bulmer: The Fine Printer in Context, 1757–1830* London: Bain and Williams, Table 1, p. 97.

[29] Advertisement to the Boydell Shakspeare [sic], Pall-Mall, June 4th, 1791.

printing."[30]

Bulmer began work with George Nicol by or before Lady Day (March 25), 1790, on which date Bulmer was living in Cleveland Row[31]. Bulmer's printing shop was in his own house. The front matter gives the address of Bulmer and Co. as "Cleveland Row, St. James" and the printer's mark indicates it was printed at Russell Court. William Bulmer, though, lived at Number 3, Russell Court, which opens onto Cleveland Row itself[32].

Font-matching software suggests *An Account of an Embassy* was composed using the Bulmer typeface, which was originally cut in 1792 by William Martin, who had trained under master typefounder John Baskerville and who had joined Nicol in 1786. The typeface resembles Bodoni and is a transitional typeface, characterized in part by ball terminals to its letters. It is through Martin that Nicol and Bulmer were able to publish many travel-related books, as one of their institutional customers was the East India Company. Martin was connected to Sir Charles Wilkins - the Librarian to the Honourable East India Company and who had studied Bengali, Persian, and Sanskrit. Warren Hastings, who was to send Turner on the embassy, commissioned Wilkins to produce a font suitable for printing Bengali texts, to aid British workers in India in learning the language. After Wilkins returned to England, Martins approached the Honourable East India Company with a request. At their meeting of February 2, 1803, the Court of the company, after having received a letter of recommendation from Wilkins, voted that Martin could "assume the title of Oriental Type Founder and printer to the Company, with the privilege of using their armorial bearings in the title pages of such works as he may be employed to print under their authority".

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[30] Isaac, *William Bulmer*, p.41.

[31] Ibid., p. 21. He paid £1.3s.4d per quarter to rent the premises.

[32] 'Cleveland Row', in Sheppard F.H.W. (ed.) (1960) *Survey of London: Volumes 29 and 30, St James Westminster, Part 1*, pp. 487–509. *British History Online* http://www.british-history.ac.uk/survey-london/vols29–30/pt1/pp487–509 Retrieved July, 18 2016].

Thus Martin and Bulmer began to publish a number of works for the Company and to publish works in Asian languages, such as a Persian grammar[33] and a polyglot dictionary.[34] Martin, and consequently Bulmer, showed great expertise in typography, typesetting, and printing given that two of the most difficult types of books for British publishers to produce are those that involve mathematics (and they published the *Transactions of the Royal Society*) and those involving non-Roman alphabets. On Martin's death, it was observed that "his Greek and Orientals formed perhaps the most valuable of his collection."[35]

Booksellers

The booksellers were George Nicol and his son, William. George Nicol, too, was well-established in their trade, as he was the official bookseller to King George III and held the title of "Bookseller to the Great Wardrobe" from 1789 to its abolition in 1792[36]. An intriguing character, George Nicol's second wife Mary Boydell—part of the influential Boydell publishing family— was the subject of an attempted murder by one of her jilted suitors, Dr. John Elliot.[37] *Account of an Embassy* must have been one of the first books published by G. &W. Nicol, as they began the business together in 1800; prior to that, from 1791–1799,

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[33] Jones, William (1809), *A Grammar of the Persian Language* was typeset by Martins and printed by Bulmer in its seventh edition; the first edition of 1771 was published elsewhere.

[34] Richardson, John (1806–1810), *A Dictionary, Persian, Arabic, and English.*

[35] Nichols, John Bowyer FSA (1858), *Illustrations of the Literary History of the Eighteenth Century*, Vol. viii, London: J.B. Nichols and Son, p. 485.

[36] For an account of the royal library, see Brooke, John (1977) "The Library of King George III", Yale University Library Gazette 52(1), pp. 33–45.

[37] *Narrative of the Life and Death of John Elliot, M.D. Containing an account of the rise progress and catastrophe of his unhappy passion for Miss Mary Boydell, a review of his writings together with an apology written by himself under the pressure of expected condemnation after his commitment for attempting to assassinate Miss Boydell.* London, 1787

George Nichol had traded as G. Nicol[38] and it was as G. Nicol, in 1795, that he had partnered with Bulmer to print and sell the related volume *An Authentic Account of an Embassy from the King of Great Britain to the Emperor of China*.[39] George Nicol and Bulmer worked closely on many volumes over the course of the careers, and their close relationship is reflected in the naming of George Nicol's grandson as William Bulmer Nicol (to whom William Bulmer left money in his will, as he did to George Nicol's widow). William Martin, the typefounder, also was closely linked with Nicol. In the Advertisement for the Shakspeare Press, Nicol writes that for three years "he has constantly lived at my house."[40] In many senses, then, *Account of an Embassy* was published by a close-knit family—by George and William Nicol, William Martin, and William Bulmer. Indeed, given that each member cared so deeply for the fine art of printing, one might say that their professional lives were an attempt to increase gross national happiness by the publication of high-quality books, of which Turner's was one.

George Nicol not only advised the King on his book purchases, but also the Duke of Roxburghe. Upon the hugely successful auction of books upon the death of the Duke, money was used to found a club for those who were interested in all matters related to books—the Roxburghe Club. Nicol was thus extremely well-connected to wealthy influential bibliophiles in eighteenth-

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[38] Maxted, Ian *Exeter Working Papers in British Book Trade* History "The London book trades 1775–1800: a preliminary checklist of members, Names N–O."

[39] Stanton, Sir George (1795). *An authentic account of an embassy from the King of Great Britain to the Emperor of China : including cursory observations made, and information obtained in travelling through that ancient empire, and a small part of Chinese Tartary ; together with a relation of the voyage undertaken on the occasion of His Majesty's ship the Lion, and the ship Hindostan, in the East India company's service, to the Yellow Sea and Gulf of Pekin, as well as of their return to Europe ; taken chiefly from the papers of His Excellency the Earl of Macartney, Sir Erasmus Gower, and of other gentlemen in the several departments of the embassy*." Printed by William Bulmer for G. Nicol, bookseller to His Majesty, London.

[40] Quoted in Isaac, *William Bulmer*, p.29.

century London. In Bulmer and Martin he had a typefounder and printer who cherished the same attention to details as Nicol and his clientele did. Turner's *Account of an Embassy* additionally had fascinating subject matter and beautiful captivating illustrations, which meant that a finely printed edition of the book could command the high prices for the deluxe edition that Bulmer and Nicol produced. It is not surprising, then, that the book was immediately successful.

Publication success

The book was excerpted immediately upon publication (what is now known as second serial rights) by *The Monthly Epitome*[41] and was reviewed soon after publication in October 1800 by *The Gentleman's Magazine*, which describes the author as providing the reader with "an ample, candid, and interesting detail of his progress and proceedings."[42] In 1805, writing his memoir of the philologist Sir William Jones[43], John Shore (an officer in the Honourable East India Company and the first Baron Teignmouth) quotes from a letter from Jones to Warren Hastings in which Jones had clearly read from Turner's letters to Hastings about the embassy. In a footnote, Teignmouth describes Turner's book as "exceedingly curious and interesting" and goes on to state that Turner "whose amiable manners and good qualities had endeared him to his friends, was seized with an apoplexy as he was walking the streets of London and died within two days."[44] And John Pinkerton, who had major arguments with the bookseller George Nicol, described *Account of an Embassy* as "without comparison, the most valuable work that has yet appeared on Thibet [sic]."[45] Beyond the favorable critical

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[41] *The Monthly Epitome for May, 1800* Vol. IV No. XXXV, pp. 161–167.

[42] *The Gentleman's Magazine* vol. lxxv (October, 1800) "Review of New Publications" pp.965–968. The review is unsigned.

[43] Jones is best known for his suggestion that Indo-European languages have a common root.

[44] Lord Teignmouth fn (1805), p.243 *Memoirs of the Life, Writings, and Correspondence of Sir William Jones.* Philadelphia: Wm. Poyntell & Co.

[45] Pinkerton, John (1814), "A Catalog of the Best and Most Interesting Voyages and Travels in all parts of the world" Volume XVII page 156, London: Longman, Hurst, Rees, Orme, and Brown.

reception marked by book reviews, *Account of an Embassy* also performed well commercially: Messrs. G. and W. Nicol reprinted it in 1806[46], which implies the first printing had sold out (which usually means that a publisher has made a profit from the book) and that, after six years, sales were sufficiently strong to warrant a new printing.

The success of the book was international. Even though many European countries were readying for the Napoleonic Wars, translations of the book were carried out rapidly after its initial English publication. A French edition was published in 1800 by François Buisson (1753–1814) of Paris, a prominent publisher specialising in travel books.[47] The front matter for the French edition includes a list of other travel books that they had available for sale. Jean-Henri Castéra produced the French text[48]. He was an accomplished translator who also rendered the autobiography of Benjamin Franklin into French as well as other travel books. Turner's book was specially adapted

[46] A copy of this second edition recently sold for $1,098. http://www.bonhams.com/auctions/18244/lot/3060/ Retrieved August 26, 2016.

[47] Five years earlier, for example, Buisson published Meares, John (1795) *Voyages de la Chine à la côte Nord-Ouest d'Amérique, faits dans les années 1788 et 1789; précédés de la relation d'un autre voyage exécuté en 1786 sur le vaisseau le Nootka, parti du Bengale*. Meares' book was originally published in English in 1791 under the title *Voyages Made in the Years 1788 and 1789, from China to the North West Coast of America*. It was sold by John Walter and printed at his Logographic Press (a printing technology that never became popular but in which syllables and words were used in the printing process, rather than individual letters). Walter was the founder of *The Times* newspaper of London. Buisson had published several journals during the French Revolution but was arrested after publishing, in 1796, a book by le Citoyen de la Croix (Jacques Vincent Delacroix) *Le Spectateur Française avant le Révolution*.

[48] Turner, Samuel (1800) *Ambassade au Thibet et au Boutan: contenant des détails très curieux sur les moeurs, la religion, les productions et le commerce du Thibet, du Boutan et des Etats voisins, et une notice sur les* événemens *qui s'y sont passés jusqu'en 1793.* Paris: F. Buisson. Translated by Jean-Henri Castéra. This French edition has a strongly worded notice about violations of copyright from La Convention Nationale.

for the French market: For example, the French title differs substantially from a literal rendering of the English title and illustrations were added to the French text by the Parisian engraver Jean-Baptiste Pierre Tardieu (1746–1816).

The French edition of Turner's book may well have been commercially successful, for it established close ties between the two publishing houses. In 1797, George Nicol had published *An Authentic Account of the Embassy from the King of Great Britain to the Emperor of China* that was also translated by Castéra and published by Buisson in 1804, again with engravings added by Jean-Baptiste Pierre Tardieu[49].

Other translations soon followed. In 1801, a German edition was published in Hamburg and Berlin by Benjamin Gottlob Hoffmann (1748–1818)[50], who had a highly regarded series of travel books, in which Turner's account was included[51]. The German text was provided by Matthias Christian Sprengel, an accomplished translator and author, who produced German editions of other travel-related titles[52]. A copy of the German edition, rather than the French translation or the English original, was included in Belgian book sale of 1835[53].

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[49] Sir George Staunton, Bart. (1797), *An Authentic Account of an Embassy from the King of Great Britain to the Emperor of China...* was published in French as (1804) *Voyage dans l'Interieur de la Chine, et en Tartarie fait dans les années 1792, 1793, et 1794.*

[50] Hoffmann soon after joined with August Campe and the publishing company thus formed, Verlag Hoffmann-Campe still exits.

[51] Turner, Samuel (1801): *Gesandtschaftsreise an den Hof des Teshoo Lama durch Bootan und einen Teil von Tibet : Samuel Turners, Capitains in Diensten der ostind. Compagnie, Gesandtschaftsreise an den Hof des Teshoo Lama durch Bootan und einen Teil von Tibet. Aus dem Englischen übersetzt ; mit 1 Karte und 4 Kupfern* Berlin/Hamburg: Benjamin Gottlob Hoffmann. Translated by Matthias Christian Sprengel.

[52] Such as Mackenzie, Alexander (1802) *Alexander Mackenzie's Reise nach dem Nordlichen Eismeere vom 3. Jun. bis 12 September 1798, aus dem Englischen u bersetzt und mit Anmerkungen versehen* Weimar : Verlag des Landes, Industrie, Comptoirs.

[53] S.n. *Catalogue d'une belle Collection de Livres dans tous les genres* (Gand, Duvivier, 1835) p.3.

A Dutch edition was released in Amsterdam the same year, by the printing house of Willem Holtrop (1751–1835), which interestingly included the notes by Castéra used in the French edition.[54] Holtrop's father John came from England and published *A New English and Dutch Dictionary* with Willem's publishing house in Amsterdam in 1789[55]; extent copies of the Dutch edition of *Account of an Embassy* give no translator's name, so it may be that Willem Holtrop translated it himself. As with the French edition, the Dutch publisher commissioned their own illustrations, this time from the engraver William Cornelis van Baarsel (1791–1854). A distinctive feature of the Dutch edition is the use of catchwords at the bottom of each page of the printed text, a practice that was dying out elsewhere in the printing industry.

An Italian edition appeared in 1817[56], translated by Vincenzo Ferrario (1768–1844). It was published by Sonzogno, a book publisher based in Milan founded by Giovan Battista Sonzogno (1760–1822) and which had only recently been transformed, in 1804, from being merely a printer. A pattern emerges, perhaps naturally, for Ferrario translated other travel narratives for the same publisher, most notably those of the British explorer Mungo Park's second published account of a journey to Africa[57]. (The first book had been published in English by Bulmer and

[54] Turner, Samuel (1801). *Turner's Gezantschaps-Reis naar Thibet en Boutan: behelzende zeer merkwaardige bijzonderheden deezer landen, tot in 1793* Amsterdam: W. Holtrop

[55] It was physically printed in Dordrecht, from where Holtrop came, by A. Blussé en Zoon. For the history of Blussé en Zoon, see Arianne Baggerman (2014) *Publishing Policies and Family Strategies The Fortunes of a Dutch Publishing House in the 18th and early 19th Centuries,* Leiden: Brill.

[56] Turner, Samuel (1817). *Ambasceria al Tibet e al Butan in cui si danno esatte e curiosissime notizie intorno ai costumi, alla religione, alle produzioni ed al commercio del Tibet, del Butan, e degli stati limitrofi, e sugli avvenimenti che si sono succeduti sino al 1793 di Samuele Turner incaricato di quest'ambasceria* Milan: Sonzogno e Comp. Translated by Vincenzo Ferrario.

[57] Park, Mungo (1817) *Viaggio all'interno dell'Affrica Milan: Sonzogno. Translated by Vincenzo Ferrario.*

George Nicol in 1799, but Park turned to John Murray to publish his book of 1815). Sonzogno published *Account of an Embassy* as volume XLI of its series *Raccolta de' Viaggi*; it was dedicated to the philanthropist, the Marchesa Matilde Solari de Loreto.

The extensive number of translations demonstrates the importance of the work internationally. Sales figures are no longer extant, but certainly the book sold worldwide. An advertisement appeared for the book in the *New York Herald* on January 2, 1802[58]. The book also appealed to members of learned societies: A copy was donated to the library of the American Philosophical Society in 1825[59], and one was added "to the library and cabinet" of the American Oriental Society as late as 1866[60]. A copy of the German edition was acquired from the bookstore of F.A. Brockhaus in Leipzig by the German Oriental Society in 1850[61]. Curiously, a satirical political poem based on Turner's account was published in 1839 to criticize the Tory party in England[62].

One mark of book's success is that related volumes are drawn from it. In 1813, a collection of drawings, *Views in Bootan* was published.[63] This book, printed in an oblong octavo format and

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[58] The New York Times (Saturday, January 2, 1802), page 4. The advertisement was placed by "H. Caritat", whose bookstore was at 153 Broadway and who described the book as "ornamented by 13 engravings." In addition to being a bookseller, Louis Alexis Hocquet de Caritat also operated a rental library and reading room. His library contained more than 3,000 volumes and he had over 30,000 volumes for sale. [George Gates Raddin, *Hocquet Caritat and the Early New York Literary Scene* (Dover, NJ: Dover Advance Press, 1953) pp. 30–34.]

[59] S.n., (1825) Transactions of the American Philosophical Society vol. 2 p. 499. The book was a gift of John Vaughan.

[60] S.n., (1866) Journal of the American Oriental Society vol. 8, p. lxxiv.

[61] S.n., (1850) *Zeitschrift der Deutschen Morgenländischen Gesellschaft* Vol. 4, No. 3, p. 411

[62] Anon (1839). "Fable" *The Odd Fellow* Issue 3, p.9. London.

[63] Davis, Samuel (1813). *Views in Bootan from the Drawings by Mr. Davis, Respectfully Inscribed to Warren Hastings Esqr. late Governor General of India by Willm. Daniell.* London: Longman, Hurst, Rees, Orme, and Brown. A copy realized over $12,000 at auction by Christies

bound in red morocco and stamped with a gilt edging, took the illustrations by Samuel Davis that appeared in the original publication as a basis for a series of six aquatints. These were composed by Thomas Daniell and subsequently engraved and printed by his nephew William Daniell, R.A., both of whom had spent time with Davis in India.[64] When *A Biographical Dictionary of Living Authors* was published in 1816, *Views in Bootan* was one of the three works of William Daniell mentioned in that volume.[65]

Further publications

With Turner's *Account of an Embassy*, the literary society of Britain was presented with a beautifully designed and printed book on an exciting topic. The bookseller was extremely well connected with the upper echelons of British society, and this no doubt helped with sales of the deluxe edition and, consequently, of the standard edition as well. The success of the book, marked by the favorable reviews, the need for a second printing, and the many translations it spawned, would have demonstrated to other publishers and potential authors that there was a good market for travel-related volumes.

Throughout the remainder of the long nineteenth century, a succession of books would appear on matters related to Bhutan, which also reflected western ideas about the Himalayan kingdom. These would include a volume of 1824 edited by Frederic Shoberl

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of London in 2009. The physical description is taken from Christies (2016) http://www.christies.com/lotfinder/prints-multiples/william-daniell-ra-after-samuel-davis-5250655-details.aspx , Retrieved June 15, 2016. A copy resides in the Royal Collection of Great Britain.

[64] http://www.bl.uk/catalogues/indiaofficeselect/OIOCShowDescs.asp?CollID=305498 Retrieved August 29, 2016.

[65] Watkins, John (ed.)(1814) *A Biographical Dictionary of the Living Authors of Great Britain and Ireland; comprising literary memoirs and anecdotes of their lives* London: Henry Colburn, printed by A.J. Valpy, p. 86. The same text for Daniell is printed in (1823) *Public Characters of All Nations; consisting of biographical accounts of nearly three thousand eminent contemporaries, alphabetically arranged.* London: Sir Richard Phillips and Co. Printed by Plummer and Brewis and sold by W. Sams in Pall Mall, and John Cumming, Dublin.

Tibet and India across the Ganges, which appeared as volume 1 of a series "The World in Miniature" printed by C. Green in Leceister Square for Rudolph Ackermann, an emigré from Saxony working in London. Other political missions to Bhutan also saw publication, including R. Boileau Pemberton's *Report on Bootan*, which appeared in 1839 and was published by G. Huttmann at the Bengal Military Orphan Press. Huttmann was the first superintendent of the Press, which sought to teach orphans of British soldiers a trade, and used money from sales of the books to help fund the orphanage[66]. Pemberton had published two years earlier in a journal on a related topic. Several reports would be published as a compendium in 1865, for *Political Missions to Bootan*, published by the Bengal Secretariat Office, not only republished Pemberton's report and that of the Honourable Ashley Eden, but also republished the *Journal of the Mission that visited Bootan in 1837–1838 under Captain R. Boileau Pemberton* by the Surgeon-Botanist William Griffith as well as *Some Account of the Country of Bhutan* by Kishen Kent Bose, both of which had originally been published in journals, the former in the Journal of the Asiatic Society of Bengal[67], the latter in Asiatick Researches[68].

With the Dooar War, publications focused more on military matters. In 1865, *The Truth About Bootan* was published anonymously in Calcutta at the Metropolitan Press, and was followed a year later by a book from David Field Rennie, *Bhotan and the Story of the Dooar War*. Subsequently, in 1868 Lieutenant R.E. Collins wrote *Experience of a Small War*, which was published for the author by the Savoy Press. What followed, eventually, was Charles Metcalfe MacGregor's 1873 *Military*

[66] A report of April 30, 1866 states the profits of the Press at a yearly average of 16,000 Rupees. Brown, Samuel FSS (1873) *Report on the Military Orphan Society and Valuation* London: Charles and Edwin Layton.

[67] Griffith, W. (1840) "Journal of the Mission which visited Bootan, in 1837–38, under Capt. R. Boileau Pemberton" Journal of the Asiatic Society of Bengal vol. 8, part I 251–291.

[68] Bose, Kishen Kent (1825) "Some Account of the Country of Bhutan" *Asiatick Researches vol. 15* 128–156.

Report on the Country of Bhutan, published in Calcuatta by the Bengal Secretariat Press. For a fuller account of the hostilities, see the article in this journal by Wangyal[69]. These events might have garnered some level of public interest in Britain, for question eight of Examination Two of the 1870 Examinations for the Prize Medals of the Royal Geographical Society was topical, asking students to "Describe the position and general physical features of Bootan, Cashmere, Sinde, and Malabar."[70]

While British involvement in Bhutan may have spread war, there was also an attempt to spread religion. Earlier there had been Jesuits (members of the Catholic religious order, the Society of Jesus) who had come to Bhutan with the intention of converting the population to Catholicism, and they sent reports back to their superiors.[71] There were other Catholic religious orders in the region, including the Capuchins, whose mission to Tibet resulted in an early dictionary[72]. The Baptist Missionary Society also sought converts in the Himalayan region, and consequently in 1799 they sent to Serampore a printer, William Ward, which lead to the eventual publication in 1829 of the *Dictionary of the Bhotanta or Boutan Language.*[73] It was part of a larger drive to translate Christian holy books into the Himalayan languages.

Conclusion

The first British book dealing with Bhutan, Captain Samuel Turner's *Account of an Embassy* was a success, both

[69] Wangyal, Sonam B. (2006). "A Cheerless Change: Bhutan Dooars to British Dooars" *Journal of Bhutan Studies*, pp.40–55. vol. 15.

[70] S.n., (1869–70) *Proceedings of the Royal Geographical Society of London* 14(3) 251–9

[71] Baillie, Luiza Maria Baillie (1999) "Father Estevao Cacella's Report on Bhutan in 1627" Journal of Bhutan Studies vol. 1, pp. 1–34.

[72] Bray, John (2008), "Missionaries, officials, and the making of the 1626 *Dictionary of the Bhotanta or Boutan Language*." *Zentralasiatische Studien des Seminars für Sprach- und Kulturwissenschaft Zentralasiens der Universität Bonn* vol. 37, pp. 33–75.

[73] Schroeter, Frederic Christian Gotthelf (1826) *Dictionary of the Bhotanta or Boutan Language,* Serampore. It was based on an Italian manuscript owned by Schroeter and which was translated into English by John Marshman. It was edited by a Baptist minister, William Carey.

commercially and critically. It formed part of a growing sector of the publishing industry dealing with travelogues and adventures. The book benefited from being published by one of the world's leading typesetters, printers, and booksellers. Interest in Bhutan in Britain continued to grow, and there were many more books published during the long-eighteenth century, whether books that taught British civil servants the various Himalayan languages, gave accounts of political missions to the region, or detailed the events of local wars. These subsequent books, for the most part, came from presses not based in London but in India, reflecting the growth of the publishing industry overseas in the Victorian period. But what Turner's book shows admirably is that if a book has captivating subject matter, expert marketing, and high-quality printing, it is more than likely to be a great success, one that other publishers worldwide will be keen to emulate.

College Youth and the Prevalence of Responsible Sexual Relationships: A Mixed Mode Study of the Development, Challenges and Prospects of Youth Sexual Behaviour in the Colleges of the Royal University of Bhutan

Amina Gurung, Ugyen Wangchuk, Dechen Tshomo and Tsering Y. Nidup[*]

Abstract

Bhutan's development policy lays huge emphasis on health and education. However, rapidly growing urban culture and changing sexual trends have raised the HIV/AIDS potential in the country. With more than half of the country's population (56%), under the age of 25, these have become disturbing issues of concern. In spite of such facts, research on sexual attitudes and behavior of the youth of the colleges of the Royal University of Bhutan (RUB) is limited both in terms of scope and depth. Hence the aim of this study was to assess the prevalence of responsible sexual behavior amongst the youth of the colleges of the RUB. The research explored the prevalence of responsible sexual behavior in all the eight existing colleges of the RUB. Survey using stratified random sampling and Focus Group Discussions (FGD) were employed to collect comprehensive data on sexual activity and relationship. The sample size was 645 (545 for the survey and 100 Focus Group participants).

In the first phase, a quantitative survey was employed to measure three constructs, (knowledge on responsible sexual behaviour, perception on sexual practice, and factors leading to irresponsible sexual behaviour) from 545 university students using stratified random sampling. Findings from this first phase were further explored using in depth focus group discussion.

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Results of the survey found that almost half of the sample study participants experienced sexual events at a relatively young age (before high school). The percentage is high among male respondents than female. By the time the students joined the colleges there is a slight increase in female respondents engaging in sexual experiences. Further high- risk sexual behaviours were noticed among those who had engaged in sexual events. 33.8% of the study sample either do not use or insist on their partners to use condoms during sexual activity. Of those who reportedly used condoms during sexual activity, 52.1 % used it to prevent or avoid pregnancy. In-depth focus group interviews revealed a silent culture of 'sugar daddies, 'sugar mummies' and 'sex buddies' highly prevalent among college students. A visible gap was also noticed with regard to students' knowledge and practice of sexual activity in connection to responsible sexual behaviour. Findings also reveal that participants have been involved in extra-marital affairs and abortion, and interestingly a higher percentage of men in the colleges reported on being sexually abused.

The study recommends the need for all the major stakeholders to take a comprehensive approach to solving issues related to youth sex and sexuality. The study also recommends Sex education and interventions that are focused on behavioral change in all the colleges of the RUB. Effective regulation and supervision of both academic and social life of youth in the university is needed most urgently. In addition, putting in place developmentally and culturally sensitive advocacy strategies right from the primary school levels to the college years are some of the recommendations of the study. Future research prospects are also discussed.

Section I: Background

According to the National Statistics Bureau (NSB, 2015), the population of young Bhutanese people (age 10-24) constitute about 56% of the total population, and while young people in Bhutan are emphasized as the most important priority at all levels of the society for a sustainable future, studies confirm the status of youth to be quite adverse. A study by the NSB

found that "despite the fact that legally marriageable age is set at 18 years, roughly 24% of young people (15-24 years) reported they were 'currently married'...close to 30% of young females reported they were married while 15.9% of young males reported the same." (NSB, 2015, p.2). The study concluded that "early-age marriages are more common among females than males." In another report the World Bank (2006) reported that one fifth of all married people have engaged in extramarital sex in the last year, and 14% of unmarried people had sex in the last year. Rates were considerably higher among urban males (43% had extramarital affairs last year, and 42% of urban single men had premarital sex in the last year). The same report also highlighted that Bhutan had "less stringent sexual norms for both men and women as compared to other South Asian countries". The Population Perspective Plan (2010,p.9) reports that "early marriage, teenage pregnancy, the low use of contraception, sexually transmitted diseases including HIV/AIDS are reported to be increasing among adolescents." Further, the same report highlights that adolescent fertility is considerably high, accounting for 11 percent of all births in 2005. Studies conducted on adolescent health (2008) found that "in comparison to other Asian countries, the Bhutanese society has a relatively open approach to sex and sexuality with less stringent practices and views about sexuality for both men and women. Premarital sex is not taboo in many rural communities with an early onset of sexual activity (especially in rural areas) occurring for some boys and girls increasing their risk of sexually transmitted diseases."(National Youth Policy 2010; Adolescent Health and development – a Country profile 2008). A recent study conducted by the National Statistics Bureau (2015) reported an increasing number of young people engaged in sexual relationship with 38.24% of young males and 15% of young females (surveyed) as having sexual relationships. Further, a recent study conducted by Norbu et al (2013) which assessed local knowledge on STIs and sexual risk behaviour in two rural districts of Bhutan: Gasa and Zhemgang found that "one in three persons practiced risky sexual behaviour, higher in men. Condom use was low. There was no reduction of risky sexual behaviour with increasing level of knowledge indicating that increasing level of knowledge does

not necessarily reduce risky sexual behaviour." In addition, the National STIs and HIV/AIDS control programme (NACP) of the Department of Health (2012) states that, "sexually transmitted infections (STIs) including HIV present a serious challenge to the health and well being of Bhutan." The report further states that "while HIV prevalence remains low, STI prevalence and incidence are worryingly and unacceptably high". The Bhutan Multiple Indicator Survey's (BMIS 2010) and the Health Thematic Analysis (HTA, 2012), found the use of contraceptives was particularly low among young, unmarried women.

In the higher education context in Bhutan, research on sexual behaviour of college youth is very limited both in scope and depth. While few studies have been carried about youth and adolescent sexuality in general (for example, see Dorji, 2015), none of the studies have focussed completely on college youth sexual behaviour of the Royal University of Bhutan (RUB). Hence this research seeks to answer the following question.

Research question

What is the prevalence of responsible sexual behaviour amongst the youth of the colleges of RUB?

Research aim

The aim of the study was to assess the attitude, sexual practices and risk perception of STIs and other risky sexual behavior amongst the youth of the colleges of the RUB.

Significance of the study

- This study is intended to understand the prevalence of responsible sexual behavior amongst the youth of the colleges of the RUB.
- Research focussed entirely on attitudes and behaviour of college youth on responsible sexual behavior has not been carried out till date in Bhutan. Hence the results of the study are intended to help policy makers and RUB stakeholders identify the prevalence of irresponsible sexual relationships, in order to help informing and strengthening

proper strategies to curb risky behaviour.

- The results of the study is also intended to inform parents, lecturers, college students and the wider audience of the development in the patterns of youth sexual behaviour in order to understand the challenges faced by the college youth in maintaining responsible sexual relationships.

Section II: Literature review

Definition of responsible sexual behaviour

The World Health Organization report (2006) defines responsible sexual behavior as a

State of physical, emotional, mental and social wellbeing in relation to sexuality; It is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled.

Coleman (2002) defined sexually responsible behavior as "understanding and having an awareness of one's sexuality and sexual development, respect for one's self and partner, ensuring that pregnancy occurs only when welcomed, and the ability to make appropriate sexual and reproductive health choices." Lottes (2000) also expressed sexual health as "the ability of men and women to enjoy and express their sexuality and do so free from risk of sexually transmitted diseases, unwanted pregnancy, coercion, violence and discrimination." He further stressed that "In order to be sexually healthy, one must be able to have informed, enjoyable and safe sex, based on self-esteem, a positive approach to human sexuality, and mutual respect in sexual relations. Sexually healthy experiences enhance life quality and pleasure, personal relationships and communication, and the expression of one's identity." While complexity with regards to the definition of responsible sexual relationship is evident

in the various papers, most of the existing definitions have common themes outlined in the WHO definition. Hence, for this research, sexually responsible relationship was defined as that relationship which promotes and respects the different aspects outlined in the WHO definition of sexual health. Sexual health thus is achieved by making informed decisions regarding sexual and reproductive behavior, within the framework of personal and societal ethics.

Sexual activity and college youth

The review of literature related to the prevalence of responsible sexual behaviour amongst youth in the universities yielded some fascinating but disturbing results. In the international context, several studies done (Berne and Huberman, 1999; Cross and Morgan, n.d ; Omoteso, 2006; Abdullahi and Umar, 2013; Thompson and Johnson, n.d;.) hinted to the fact that there was a high prevalence of free sex and sexual activities particularly in the context of higher learning institutes like the universities. Surveys conducted have found that the age of first sexual intercourse is declining throughout the world. Table 1 below demonstrate the worldwide age of first intercourse.

Table 1: Age at first intercourse	
Nation	Average Age at First Intercourse
United States	15.8
Netherlands	17.7
Germany	16.2
France	16.8

Source: Berne and Huberman (1999)

In another study by Cross and Morgan (n.d.) only 15 percent of college students chose to remain virgins throughout their college experience. Similar findings were reported by Elliott and Brantley (1997) in the largest and most comprehensive study on college student sexuality to date. Cross and Morgan (n.d.) writes "even more shocking is the age at which teenagers are now

losing their virginity. A third of all freshmen, primarily 14 and 15 year olds-have had sex. By senior year, that number swells to nearly two-thirds". As a result, many students are coming to college with pre-established sexual behaviors."

In Nigeria, one study states that "sex before marriage is seen as normal and a pleasurable satisfaction which young adults experience." (Abdullahi and Umar, 2013). The study states that, "the university environment allows freer sexual activities and this is against moral values of the community. It is for this perhaps that the University is witnessing the prevalence of pre-marital sex, homosexuals, rape, STls and incidences of abortion in the campus." (Warner cited in Abdullahi and Umar, 2013, p. 41). In the same study, an observation is made about the consequences of irresponsible sexual behaviours which constitute enormous problems. The study states that "once in school, college or universities, students are cut off from family's restriction and support" and that "college life neither understands nor supports the value of chastity". Hence for the students in higher learning institutions "sex is reduced to an easy source of pleasure and totally divorced from love and marriage." On the other hand, Omoteso (2006) states family background has a significant influence on young people's sexual behavior. He cites several studies that have found that "in many countries, young women lacking opportunities and from poor family background seek support from men trading sex and thus risk HIV infection and other STI's for security. Young women sometimes enter into sexual behaviour with older men called "sugardaddies" in sub-Saharan Africa who pay their school fees, buy them gifts and offer inducements". In another study, Cooper (2000) highlights that "college life, with its greatly expanded opportunities for self-governance and independence, provides an important new context in which young people learn to manage their sexual relationships and their sexuality." This means that college students need to know how to manage one's own sexuality as well as balance academic and social life. However, college years and the environment according to Cooper (2010) tend to be "sporadic, furtive and poorly managed".

Sexual behaviour in higher education institutes in Bhutan

While there is a lack of concrete research concerning youth sexual relationship especially in the context of higher educational institutes in Bhutan, increasing evidences suggest growing incidences of irresponsible sexual behavior amongst young people, resulting in unplanned pregnancies, abortion, behaviour conflict, STIs, emotional and psychological stress and sometimes suicide (BMIS 2010; World Bank Report; NACP 2012). One of the major findings from one study conducted by the National Statistic Bureau (2015, p 127) was:

> that young people look at sexual affair as a source of fun, pleasure, enjoyment, and of course, a biological necessity rather than as a serious matter needing more proper conduct to avoid adverse consequences. This view may be due to inadequate understanding of the negative consequences of early sexual intercourse and unprotected sex.

The same study further states that "young people look at sex as their natural rights rather than as a complex process of emotional, cognitive, social and moral development." In addition, a GNHC report (2010) asserts that risky sexual behavior (low use of contraception, teenage pregnancy, and mistimed pregnancy) and the spread of STDs, including HIV/AIDS among adolescents and youth are increasing in the country. Additional reports from the National Health Survey (NHS, 2012), states that, the level of sexual activity among young people in general is high. According to the report, one fourth of the women in the age group (15-19) years had reported that their first pregnancy occurred at ages between 18-19 years. The mean age of the reported first pregnancy among women aged 15-49 was 20.35 in 2012 with standard deviation 3.54 (NHS, 2012). Dorji (2015) posits that early age pregnancy is common in Bhutan. Findings from these studies are important in terms of understanding young people's (including college youth) views and acknowledgement of sex and sexuality, though each of the above studies were not completely focused on college youth, and therefore had varying samples.

In 2015, a study (Gurung and Tshomo, 2015) was conducted at the Paro College of Education which aimed to find out the prevalence of responsible sexual behaviour in the college. The study found that though student teachers' perception about the information and knowledge on STI was very high (95% and 88%), the percentage decreased as it moved towards responsible sexual practices (condom usage-75.3%, worries about getting STIs after sexual activity-59%, and prefer having sex rather than avoiding it due to the unavailability of condom- 32.6%). In addition, the study also found that sex was not seen as a casual activity by respondents. (Involvement in sexual activity is a casual thing for me 17.9%. For me sexual activity can occur only in a serious relationship -62.2%). Further, while 62.2% of survey participants agreed or strongly agreed that extra marital affairs were one of the most prevalent reasons for divorce and domestic violence, a good percentage had been led to sexual activity due to one or the other reasons (money-9.3%, care and affection-27.9%, promises of marriage-42.3 %), all of which could trigger extra-marital affairs or irresponsible sexual behaviour. Attitude towards casual sex was also very relaxed with 58.5% claiming that they did not see anything wrong in casual sexual behaviour as long as there was mutual consent. The study concluded that more than half the percentage (53%) of the sample student population had been involved in sexual activity at least once in their life.

Section III: Methodology

Description of the research study

This study employed sequential mixed method approach which is "an approach to inquiry that combines or associates both qualitative and quantitative forms of research. It involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study" (Creswell, 2009, p. 230). One of the main reasons for employing mixed methods paradigm is its complementarities- i.e., seeking elaboration, enhancement, illustration, clarification of the results from one method with results from the other method". Accordingly, findings from quantitative data gathered

from a larger sample were explored through interviews with a smaller number of focus group participants.

Data Gathering Process

The section below details out the data gathering procedures that were followed in the research process.

Quantitative phase

For the purpose of quantitative analysis, a structured survey questionnaire was used to collect the data from the undergrad university students currently studying in the colleges of the RUB. All the respondents were full-time RUB students, aged between 16 and 30 years. The part-time, in-service and distance program students, were not part of this study.

Sampling

A stratified random sampling method was used to obtain the sampling unit from the undergrad university students of the Royal University of Bhutan. All students were first categorized by gender, and then an equal number of subjects were randomly selected from each gender. The sample was stratified into gender to ensure proportionally equal representative of male and female student in each of the colleges. The total required sample size was estimated to be 546 at 95% confidence level with 5% margin of errors, out of the total university population of around 15000 students. The sample size was estimated based on the following statistical formulation suggested by Krejcie and Morgan (1970).

Where

$$s = \frac{x^2 * N * P(1-P)}{d^2(N-1) + x^2 * P(1-P)}$$

s = required sample size
x^2 = the table value of chi-square for one degree of freedom at the desired confidence level
N = the population size
P = the population proportion (assumed to be .50 since this would provide the maximum sample size)
d = the degree of accuracy expressed as a proportion (.05).

Instrument

The Survey questionnaire included items that measured three constructs, i.e. knowledge, practice and factors leading to irresponsible sexual behaviours and attitudes among full-time Royal University student population. The questionnaire consisted of 15 items each on students' knowledge and practice; and 12 items on other factors leading to irresponsible sexual behavior. All the items had five-level Likert-type response scales, except the items on demographic information which consisted of either binary or other categorical data. The variable which used five-point likert scale was coded as 5=Strongly Agree, 4=Agree, 3=neither Agree nor Disagree, 2=Disagree and 1=strongly Disagree. Pilot study of the questionnaire confirmed that each participant took about 15 minutes to answer all the questions. Anonymity of the research participants was maintained. Responses to individual questions by each student was recorded and entered into a computer database and analyses were performed using the Statistical Package for the Social Sciences (SPSS).

Qualitative phase

Participants

After analysing data from the survey, five colleges were identified for qualitative study. The main criteria for these selections were based on the highest and the lowest percentage in prevalence of sexual activity, proximity to the urban centres or highways, and curriculum diversity. Each of the colleges was codified as 'college A'…to 'college I'. Subsequently, the research participants were selected using purposive sampling from each of these five colleges. All the colleges were asked to select twenty participants on a voluntary basis, ten female and ten male, making up 100 participants from five selected colleges. The participants covered all levels of students (1st year to final year) and also included the student leaders. The interview was a focused group interview, conducted separately for both genders so as to avoid any kind of inhibitions. In total, ten Focus Group Discussions (FGDs) were conducted from the five colleges. Each FGD had 10 members.

The interview time ranged from one hour thirty minutes to two hours.

Qualitative data analysis

Upon completion of the interviews, the tape-recorded data was transcribed. Each set of data identifying each of the colleges were first codified to maintain anonymity. Then each participant was codified as 'P1, P2' from each of the college. Once the colleges and the participants were codified, and the whole data transcribed, the data was coded using colour coding to generate categories and themes. As each set of data was analysed soon after the interview, new understandings emerged which directed the researchers to adapt and change (Marshall and Rossman, 2006, p.161) in the following interviews. The researchers stopped the interviews upon data saturation (Glaser and Strauss in 1967). Data was analysed using the Template strategy (Crabtree and Miller, 1992) in which researchers "apply sets of codes to the data that may undergo revision as the analysis proceeds" Marshall and Rossman (2006, p. 155). The sets of codes were taken out from the quantitative findings. Then themes were analysed using colour coding and determining keywords and phrases that were common amongst interviewees. Throughout each coding method, commonalities developed. We made note of the patterns and themes occurring in the data for later reference. Once codes were categorized, they were compared to one another. Thus a detailed data analysis procedure was used to analyse data. Finally the researchers went over all the data sets again to see if there was anything that was left out. To conclude, a Triangulation of the patterns and themes was conducted to create new levels of understanding the existing knowledge by reviewing the interviews in a comparative analysis with the previous two levels of coding (Saldaña, 2009).

Seeking consent and gaining access

The proposal was first presented in one of the seminar series which was led by the Dean of Research and Industrial linkages and the Director General of the Paro college of Education. Feedback and suggestions were voiced out by the members present in the meeting and changes were incorporated. Later

a full proposal was developed to apply for the college grant as well as to meet the ethical standards set by the college research committee (CRC). Once the proposal was accepted, all the colleges of the RUB were sent consent letters to sign with the aim and the objectives of the research outlined in the consent letters.

Section IV: Data findings, analysis and discussion

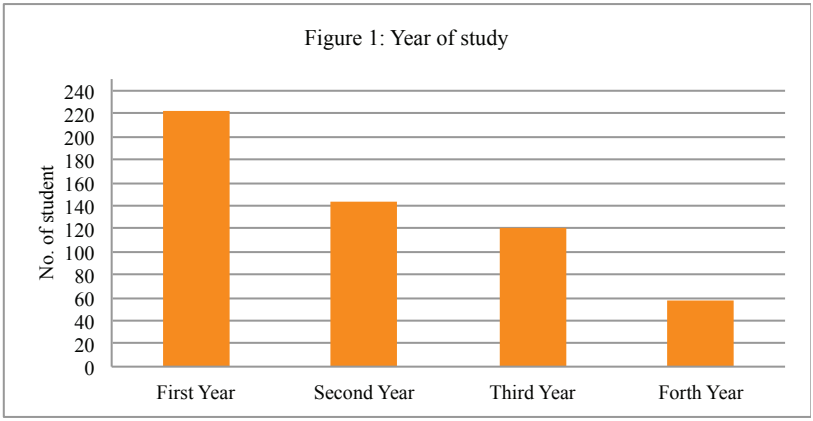
General characteristics

In all, 545 young adults between the ages of 15-30 years old participated in this baseline survey (see Table 2). The participants were full time undergraduate Royal University students and came from different community background. Descriptive analyses revealed that 13.7% (31) of enrolled participants were 15-20 years old male and 6.2% (14) were 26-30 years old, with the majority 80.2%(182) being between 21-26 years of age. Similarly, 20.6% (64) of the participants were 15-20 years old female, with majority 74.5% (231) falling in the age range of 21-26 years and rest 4.8% (15) being in the age of 26-30years.

Table 2. Age in years

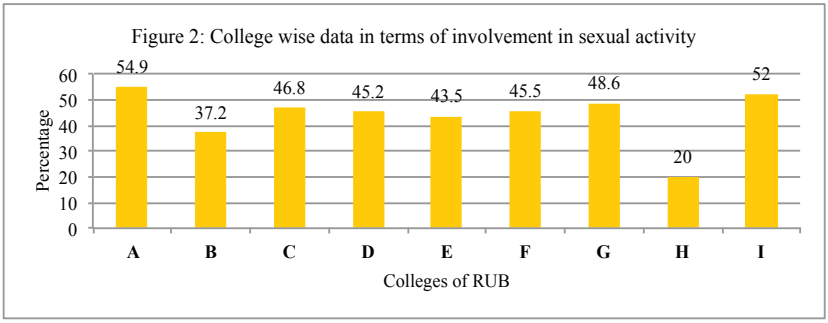
	Age in years					
	15-20		21-26		26-30	
	Count	Row N %	Count	Row N %	Count	Row N %
Gender Male	31	13.7%	182	80.2%	14	6.2%
Female	64	20.6%	231	74.5%	15	4.8%

At the time of survey administration, 40.7% (222) of enrolled participants were reportedly in first year, 26.2% (143) were second year student, another 22% (120) in third year while 10.6% (58) were final year graduating students, respectively (see Figure 1).



College wise data in terms of involvement in sexual activity

The students experiencing sexual event at least once in their life time is more or less consistent across all the RUB colleges. 54.9 % of respondents at college A reporting the highest, followed by 52% at college I and College G with 48.6%. The lowest was reported at college H with only 20% of the respondent agreeing or strongly agreeing to having sexual experience at least once in their life time (see Figure 2).



High prevalence of sexual behaviour

At the time of survey administration, 50% of sample population had been involved in sexual activity. The percentage was higher among boys (31.7%) then in girls (18.3%). However, there was

also a good number, (around 55.7%) of the female respondents who said that they disagree or strongly disagree to the statement "I have involved in sexual activity at least once in my lifetime" compared to only 25.2% of the male respondents.

Figure 3. Percentage of college students involved in sexual activity

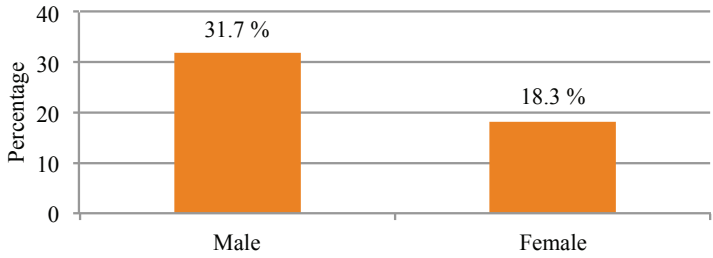
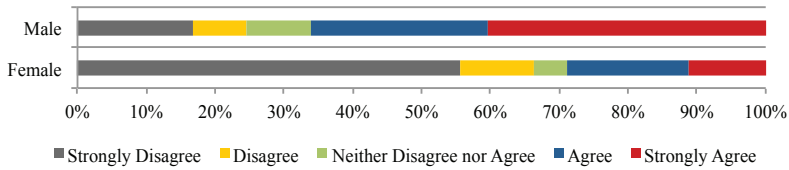


Figure 4. I have involved in sexual activity at least once in my life time.



FGDs from the present study not only confirmed the prevalence of sexual activity in the colleges, but pointed to the fact that the percentage of prevalence could be higher than what the survey had revealed. While in FGDs, when asked to point out the range in percentage in terms of the students' involvement in sexual activity, the participants' response across the colleges ranged from 50% to 70%. Questions were asked to probe deeper to confirm the numbers such as "In a day how many couples do you see in the college campus?" and the answers were "more than 20 couples who we know are sexual partners." Students could give several examples of the prevalence ranging from simple boyfriend/girlfriend topics to complex extra-marital affairs, abortion, and risky sexual behaviours such as indulging

in sexual activity for money, self-esteem and want of the latest trends such as the 3 Cs- "*cash, car and cell phone*". The participants were of the opinion that sexual activity amongst youth is normal and that it does exist rampantly. "Sex is fashion and you must have it". (CI, P4). Some participants shared some common dialogues they use in their everyday conversations such as "being a virgin is not a dignity but a loss of opportunity". Another male participant shared "It is good to have sex... by the time one is in college, we are adults and it is time to really know the adult life and explore..." (CI, P8).

Considering the fact that at the time of the survey administration, most of the participants were first year students followed subsequently by senior students; it is highly possible that the actual number of sexual prevalence is higher than what the present data indicates, as it is highly likely that the students would be more inhibited and discreet in their first years. During the FGDs, as more senior members occupied the discussions, strong evidences of the prevalence of sexual relationship came up powerfully. Earlier finding (see Dorji, 2015, p.23) on youth sexual activity has found that among the "male youth of 20-24 years, 80.97% reported that they had sexual intercourse while 18.56% of female respondents reported the same". This study, therefore, strongly asserts that there is a huge prevalence of sexual relationship and that the prevalence is much higher than what the present data has indicated.

So who are the sexual partners of college students?

Though the survey questions did not ask this particular item, interviews with students clearly revealed several categories of sexual partners that students often got involved with. The following table 3 below is a list of the sexual partners of the college students as stated in different interviews.

Table 3. List of sexual partners

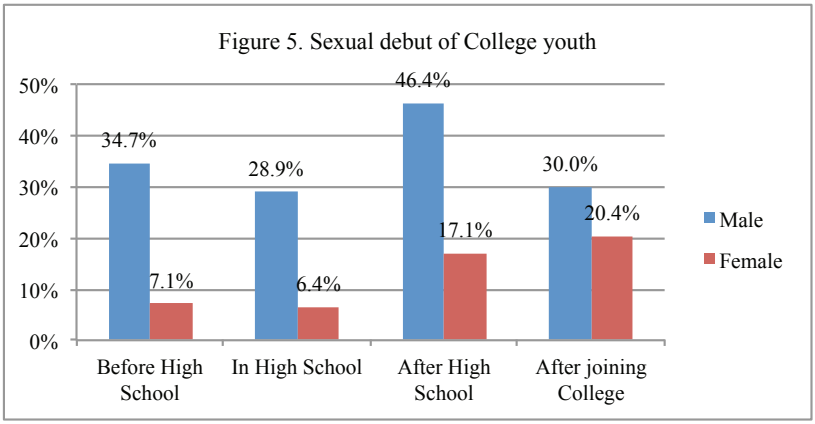
Sexual partners of college girls	**Sexual partners of college boys**
Tourist guides, Business men, Truck drivers, Taxi drivers, College students, Indian workers from nearby projects offices, Contractors, School dropouts, Civil servants, Party goers, Strangers, Sex buddies, army officers, policemen/officers, Corporate officials.	Married women (Aums), shopkeepers and hoteliers, college students, Party goers, civil servants, Strangers, Sex buddies, girls working in resort, school girls, Drayang girls.

What is important for the stakeholders to know and address is the unhealthy consequences of involving with some of the categories of the students sexual partners. During the interviews, it was quite evident that most of these relationships did not last long and depended on mutual transaction of sex for money, love for attention, and to fulfil basic necessities of life like food, clothing and shelter. As one responded, "Mostly girls get involved in such activities because of money...When you don't have income from the parents and here you have to be with equal with others... there is less facilities at the hostels... and as day scholars, they need to buy stuff and on top of that they have to pay rent. So that's why I think is the reason why they get involved in such activities." (P4, CA).

Sexual debut

Study participants reported experiencing sexual events at relatively young ages. Analyses of the data revealed that around 34.7% (16.9% + 17.8%) of the enrolled male respondents agree or strongly agree with the statement "My first sexual encounter was before high school". This means they had experienced sexual activities by the age of 14 years old or younger. This incidence is reported high amongst the male respondents than the female respondents. Only around 7.1% of female respondents agreed to this statement (see figure 5). By the time the students have

joined the college there is slight increase in the incidence of the female respondents engaging in sexual experience. Around 20.4% of the female respondents agreed or strongly agreed that they experienced their first sexual intercourse after joining the college, while there is not much difference in case of male respondents (see figure 5). This finding validates earlier findings from the National Health Survey where it was found that a good percentage of 10-19 years male respondents reported that they ever had sex while 9.7% female adolescents reported the same. The percentage increased as the years went up with 80.97% male and 18.56% female 20-24 years old claiming that they ever had sex. The percentage of the first sexual debut of college youth is represented in the figure below (see figure 5).



FGDs confirmed the prevalence of early sexual debut among both boys and girls. This finding from the survey was confirmed when respondents in FGDs strongly claimed that there were incidences of female students in primary schools (friends or students) suddenly dropping school. When inquired, there were reports of pregnancy and child birth, and for some even suicide. Some respondents shared experiences of talking with their male friends who were seen buying condoms, when asked if it was with their girlfriend or wife, they would deny and instead share secrets of having "relationships" with girls from junior high schools. Respondents agreed that young girls had very high

image of college boys.

One of the important points to be noted here, based on the above finding is the fact that the most vulnerable period for students to indulge in sexual activity is "After High school". The number almost triples for girls from (6.4% getting involved in sexual activity in high school to a sudden jump of 17.1% of them involving after high school). There is also a significant increase for boys from 28.9% to 46.4% after high school. This must move the relevant stakeholders (Youth Agencies like the DYCS, MoE, MoH, RUB, Parents, teachers and lecturers) towards coming up with significant measures to address these issues. Long school breaks after passing out from high school and before joining the college/getting a job, absence of meaningful activities involving youth on holidays (especially after high school) could be some of the reasons for this sudden surge of sexual activities.

Prevalence of very risky sexual behaviours

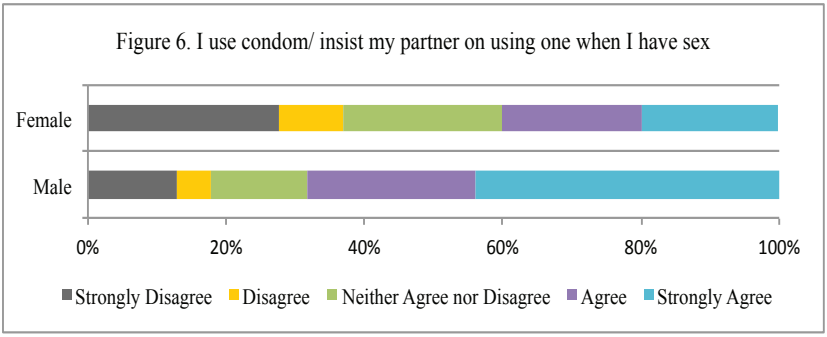
Limited condom use, excessive use of I-Pills and the prevalence of STIs

High-risk sexual behaviours were noticeably observed amongst those respondents who had engaged in a sexual event. First, 44.8% (238) of study sample had reportedly engaged in sexual activities, of which 33.8% (161) either do not use or insist on their partner using condom when they have sex. This finding is validated by the qualitative data. The participants' response to the question on the use of condom was astounding. Participant 4, a female from college A commented on the attitude of girls on the use of condom, "They usually say that there is no fun in using it. There is no pleasure in it." While a male participant (P8) from college A said, "Girls are really shy … they cannot ask… maybe they cannot ask their boyfriends to use it. Could be that our girls are quite shy and Bhutanese girls are quite shy when it comes to intimate things for that reason." A male participant (P1) from college I said, "Sometimes when we go for a drink or parties we are not prepared and when we meet with unknown person/strangers we engage in sexual activity without condoms. Same thing happens with the girls as well." A female participant

(P4) from college G said, the preference is I-Pill "because they really can't go looking for condoms, especially when they are in the moment."

Second, of those who had reportedly used condoms during sexual event, over half of them (52.1%) used it to prevent or avoid unwanted pregnancy and not for the fear of STIs. This finding is substantiated by the qualitative data when participants said the youth preferred i-pills to condom. A female participant (P1) from college I commented, "They don't fear STIs but they fear pregnancy because they probably think that they won't get it or may be the symptoms come much later where as pregnancy is a fast result…there is a stigma attached to it" Another female participant (P4) from college H said, "We usually spot i-pills in the drawers." A male participant (P7) from the same college also said, "When we go to town, our friends and seniors call you and ask us to get them i-pills."

Also, looking at Figure 6, it is quite interesting to note that there were more number of female than male respondents who do not insist or use condom during the sexual event. Around 42.1% of the female respondents disagree or strongly disagree, while only about 22.6% of the male respondents do not insist or use condom during their sexual event. This finding from the quantitative data is confirmed by the qualitative findings where, mostly the girls opted not to use condoms. A female participant (P5) from college A said, "Some boys share that they do use condom during sexual intercourse. But some say, girls themselves do not allow them to use it." Another female participant (P4) from college I commented, "They say they don't get satisfaction. This is whether it is our girls or girls from outside that we don't know. But we do hear boys say this. 'Even if we insist on using condom, girls themselves do not allow us'."



Sexual exploitation - A risky culture of sugar daddies, sugar mummies and extra-marital affairs

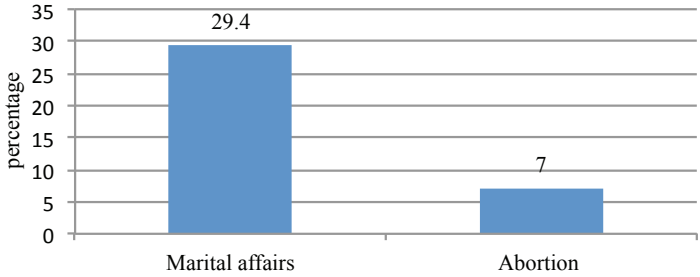
Another disturbing finding of this study is that there seems to be a hidden, risky culture of sugar daddies and sugar mummies. FGDs revealed that these incidences were reported in most of the sample colleges, though the numbers of incidences varied. A female participant (P1) from college (D) said, "Some they do like that…they make sugar daddy and all…they go and have sex with them…and they say like I need this one…I need this much money and they give." Another female participant (P7) from college G again commented, "They actually need money… even their college fees are paid by them." The involvement in sexual activity for money is not only prevalent with the girls but the boys also get involved for the same reasons. Participant 1 (female) from college I said, "I have heard like boys…when we ask them do you have a girlfriend…yes I am dating *alugiaii* (mother of a child) …really good in bed…they say like this … *Teru ya jingmey* (they fund us) …go to parties…we just need to take a car and then fuel up *ya bey jiung mey* (will even fuel up the car)…they also sponsor us…but the sad thing is no body actually speaks of love…they only speak of money and that also associate with sugar mummies and daddies…they are mostly for money and do not actually love the person." Another female participant (P5) from the college C said, "Actually if you look, out of 100 about 90% of them are like that. If it is boys I have heard two to three of my own friends say this. That *Aums* give them money, while their husbands are away during day time they go

and have behaviour with those *aums*." A female participant (P2) from college A said "I have heard some but only few, one or two in whole of our college like they belong to very poor family but they are renting a house worth Nu. 5000 or 6000 and we have heard our friends coming from that area saying that every day a big new car is in front of that house". A female participant (P4) from the same college reasoned that, "May be they run out of bucks…they need some pocket money."

A male participant (P 8) from the college G commented, "Mostly girls get involved in such activities because of money. When you don't have income from the parents and here you have to be with equal with others. Of course, we also cannot simply blame them because we have to stand equally with others. So since there is less facilities at the hostels and if they have to stay as day scholar then they need to buy stuff and on top of that they have to pay rent. So that's why I think is the reason why they get involved in such activities." Participants in FGDs mentioned money as a prominent factor for involvement in sexual activity and this is common in all the colleges. Late night parties and alcohol seems to be other reasons for risky sexual activities. A participant from said, "When parties get over around 1 am or 2 am, girls are in need of transport and money, so they involve in sexual activity. It might not be true if said by one or two taxi drivers but 90% of them say the same thing."

Similarly, 82.8% of the respondents reported that they know indulging in extra-marital affairs is punishable by law, yet 29.4% have responded to have involved in extra marital affairs. This finding is substantiated by the qualitative data when a female participant (P4) from college I said, "They are already married and they have children and they have affairs with our college girls here."

Figure 7. Invovement in extra martial affairs and abortion



From the total respondents, 88% reported that they know abortion is punishable by law; yet again there is evidence of respondents aborting a child. 7% of respondent agreed or strongly agreed to aborting or being partner to abortion of a child. The Department for Children, Schools and Families (DCSF) 2009, p 9 states that 'exploitative situations' are contexts and relationships where young people (or a third person or persons) receive 'something' (e.g. food, accommodation, drugs, alcohol, cigarettes, affection, gifts, money) as a result of them performing, and/or another or others performing on them, sexual activities'. Findings from this data indicate that there is a high prevalence of "exploitative situations" faced by the college youth.

Sex buddies and multiple sex partners

Another startling finding of the study was the prevalent hidden culture of "Sex Buddies". Participant 7 of college I said, "I have heard about sex buddies, they don't get in relationship but they have a sex buddy who…both of them…when they want to have sex, they call each other but they don't have any relationship … just sex buddies.. If the guys satisfy the girl, the girl will keep the guy as sex buddy but then if both of them they cannot satisfy each other then they will just change." There were also stories of few girls (2-3 in numbers) from some of the colleges who went around freely indulging in alcohol and sexual intercourse and that in these few instances girls went about openly saying that they *get pleasure from sexual intercourse*. Boys from this

particular college shared the phone number of these girls with outsiders whom they nick-named as "sperm tank". Discussion revealed that these girls went around indulging in sex when they were given drugs (tablets) and alcohol by their male counterpart. Similar evidences of very risky sexual behaviour also emerged from the FGDs from other colleges. One college student, (P3) from College A for example said that they share girlfriends among them "on understanding basis". "The same girl with whom the first person started the sexual intercourse finally reaches that same first person after several exchanges with several of his friends". When asked if these were some lone isolated cases, the participants expressed that this culture in fact has gained momentum amongst college students. They pass numbers and indulge in sexual intercourse with the same girl/s. Incidences of having sex with multiple partners was another disturbing finding. Though the present study assumes that this could be a small number and only in some of the colleges, the finding is disturbing because of the fact that college students take it very lightly. A respondent from College I proudly said "In our college, a guy having sexual relationship with two girls is called "*Threesome*" and someone having sex with one is called "*Twosome*" and the one not having sexual intercourse is called "*Handsome*" indicating masturbation while other members of the FGDs laughed. Friends who did not have a boyfriend or girlfriend were branded with several names like "Chakka, Phomen-Momen, Behenji/Choti behen, kid, Aunty ..." and were considered generally "*Abnormal*" by peers. "Sex is fashion, you must have it" as put by one of the respondents seems to be the strong shared notion amongst the youngsters.

Sexual abuse: Higher in men than women

The analysis also revealed a significant number of respondents being sexually abused. Of the total sample population, 16.6% of the respondents reported having been sexually abused once in their life time. Of these, interestingly, men were more often abused sexually than women. About 10.1% of the male respondents either agreed or strongly agreed being sexually abused compared to 6.1% of women. These differences were statistically significant. ($c2 = 26.978$, $df=4$, $p=0.001$) (see table

4 and 5).

Table 4. I have been sexually abused at least once in my lifetime

	I have been sexually abused at least once in my lifetime.					
	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree	Total
Male	92	45	38	28	19	222
Female	186	41	34	26	8	295
Total	278	86	72	54	27	517

Table 5. Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.978a	4	.000
Likelihood Ratio	27.174	4	.000
Linear-by-Linear Association	22.148	1	.000
N of Valid Cases	517		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.59.

Findings from this data, therefore, indicate that equal number of men if not more are victims of sexual abuse. This finding therefore dispels the common myth and stereotype that males are not victims of sexual abuse, and that most of the victims are females.

However, this finding was not followed up in FGDs for various reasons, chiefly because this was outside the scope of this research, and due to the limited time of the respondents. Hence it is recommended that future research could be carried out on this issue. The study could be important because of the fact that unlike the stereotypical assumption that girls are the usual victims of sexual abuse, there could be a possibility of

men abused sexually. The section below presents a brief review of related literature on male child or male sexual abuse.

Discussion on male victims of sexual abuse

> Since we are sometimes compelled against our will by persons of high rank to perform the operation, by compression is thus performed: children, still of a tender age, are placed in a vessel of hot water, and then when the parts are softened in the bath, the testicles are to be squeezed with the fingers until they disappear.
>
> Paulus Aegineta
> 1st Century A.D.

With this quote from Sander Breiner's book, *Slaughter of the Innocents: Child abuse through the ages and today*, Matthews (1996) in his report on "*The Invisible Boy: Revisioning the victimization of male children and teens*" builds a compelling case of the prevalence and victimization of male child and the underreported and biased viewpoint of this topic. The report strongly emphasizes on the need of a male-inclusive perspective in policies and practices. In yet another meta-analysis of literature Daniels, (n.d.), examined some of the reasons why the data on male sexual abuse is not better known and the forces that may be contributing to an undercount of male sexual assault victims and/or female sexual assault perpetrators. There are several studies that have found the sexual abuse of males in the international context. Dube et al (2005) states an alarming data by exposing that 1 in 6 men have experienced abusive sexual experiences before age 18. And this they say is probably a low estimate. Lisak, Hopper and Song's (1996) study of male university students in the Boston area reported that 18% of men were sexually abused before the age of 16.

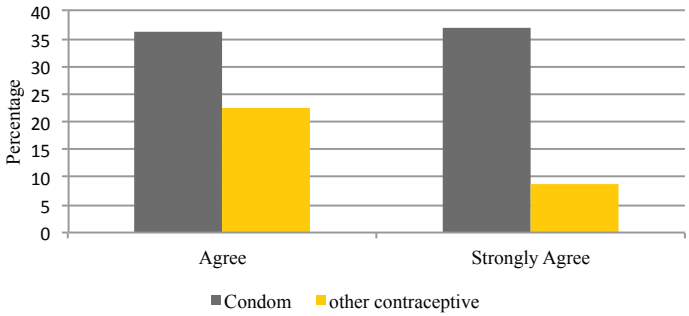
However, though there seems to be a high prevalence of male sexual abuse, present discussions of the mainstream literature seems to focus massively and unfairly only on the sexual abuse of girls and women. Researchers agree that in much of the research, data are not disaggregated for boys and girls, and

male experiences of sexual exploitation and abuse are generally underreported. For example, in a 1998 review of research reports by Holmes and Slap they contend that male childhood sexual abuse is "common, under-reported, under-recognized, and under-treated." Sexual exploitation by female perpetrators is a strong issue as well. Daniels (n.d) critiques that "given the many forces working against seeing and confirming sexual abuse of men and/or sexual abuse by women, making our systems acknowledge and appropriately respond to these sexual abuse cases is going to be a tall order." We would like to end this issue with the assertion taken by Health Canada (1996), "Stated simply, if we do not go looking for male victims, we will not find them."

Gaps in sexual knowledge and practice: "Parroting...they know everything but they don't practice"

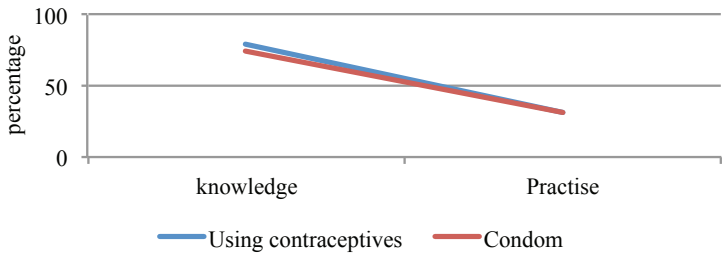
The survey items assessed participant's effective prevention behaviour and practices in relation to their perception of irresponsible sexual behaviour. Data analysis identified that condom usage to be the preferred means of preventive measures adopted by the sexually active respondents. Of the 237 sexually active respondents 73.4% agreed or strongly agreed to condom usage as compared to 38.4 % preferring other forms of contraceptives other than condom. However, when condom is used, pregnancy avoidance is the key motivator both amongst male and female.

Figure 8. Comparision between codom and other contraceptives usage



Although, overall, knowledge in terms of responsible sexual behavior amongst students of the RUB is high, their practice however is inconsistent with their knowledge. For example, the percentage of respondents who said condom is the only way to protect against STIs is exceptionally high at 74.6% but only about 31.4% of the respondents have actually made use of condom in their sexual intercourse. 79.1% of the sample respondents agreed that using contraceptives assures them and their partner of not becoming pregnant but only 31.4 % of respondents reported using other contraceptives other than condom during their sexual intercourse (see figure 6). This finding is disturbing as a condom is the only way to protect oneself from STIs. The consequences of non-use of condom was evident when it was shared in one of the FGDs that seventeen students were detected as having STIs in one of the blood drive campaigns in one of the colleges. Respondents also shared, "we have seen and we know that boys suffer from STIs. For example we know from the kind of sickness. Today if I use one girl and I have been diagnosed as having STIs, and then the same girl is used by another boy and he has similar symptoms, then we know it is STIs."

Figure 9. Knowledge and practise in term of condom and contraceptive usage



A simple ANOVA test was conducted to discover whether this finding was significant. The finding is presented below.

Table 6: Anova Test on the impact of knowledge on practice

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.536	1	.536	.577	.448b
	Residual	486.903	524	.929		
	Total	487.439	525			

a. Dependent Variable: Practice_IRSR

b. Predictors: (Constant), Knowledge_consequences

Analysis of variance (ANOVA) found that there was no significant difference in practice to knowledge on irresponsible sexual relationship (IRSR). (F=.577, p>.05), therefore confirming statistically that knowledge on IRSR has no impact on practice. Earlier findings NHS (2012), BMIS (2010), Gurung and Tshomo (2015) and Norbu et al (2013) have all come to similar conclusions with regards to peoples' high knowledge about irresponsible sexual behaviour and their actual practice as being very low. This study further validates the earlier findings that increasing levels of knowledge does not necessarily reduce risky sexual behaviour even amongst the college youth. Hence, as was expressed very clearly by one of the FGD participant, "*Parroting…they know everything but they don't practice*" is therefore proved statistically as well.

Summary of findings

The entire findings and discussions presented in the above sections have been summarized in the following key themes.

Key finding 1: Very high prevalence of irresponsible sexual behavior across all the colleges in RUB.

This findings and analysis of the present study indicate that there is a very high prevalence of irresponsible sexual behavior across all the colleges of RUB. Considering the fact that in the quantitative phase of the study, the sample was a stratified random sampling which resulted in more number of students from 1st years participating in the study, the percentage of the

prevalence of irresponsible sexual behavior should be much higher than the present finding. Literature asserts that there are inherent limitations of collecting sensitive data such as participants not being totally truthful. Though the anonymous nature of the questionnaire may have given the participants an easy format to answer the responses honestly, the fact that in some colleges, management officials (e.g. Student Affairs Deans, Administrative staff) were requested to give and collect the questionnaire from the students could have affected authentic feedback from the students. Data for some colleges appeared low in the survey yet when the FGDs were conducted, it was found that there were incidences of very risky sexual behavour. FGDs were richer with students openly sharing their perceptions and experiences. However, of the five colleges, FGD was affected in one of the colleges in terms of its depth and detail. The answers were limited mostly to yes/no even though they were adequately prompted. The researchers assume if this group was influenced by the meeting they had with one of the important management authority just before the interview. Evidences therefore suggest a very high prevalence of irresponsible sexual behavior in the colleges of the RUB.

Key finding 2: High prevalence of risky sexual behavior

In addition to the high prevalence of sexual behavior, the study also found a high prevalence of risky sexual behavior practiced by young people. Non-preference of condom usage by both boys and girls, prevalence of STIs, exchanging sex partners which were termed as 'sex buddies' by the students themselves, multiple sex partners, extra-marital affairs, preference and frequent use of I-Pills, sex with strangers, indulging in sugar daddy and sugar mummy relationship because of monetary and other reasons were some of the risky sexual behavior observed in the youth of the colleges. Also important to note here was the casual and easy way in which students in FGDs talked about the issues related to extra-marital affairs, sex buddies, multiple sex partners, contraceptives, party culture, alcohol addiction, the greed for money, sugar daddies and mummies and so on indicating that these have become part of the college culture, at least in the world of the students.

Key finding 3: As compared to women, men are also equally sexually abused if not more, challenging the stereotypical notion that women are the sole victims of sexual abuse.

The data findings from this study indicate that men are equally abused sexually. While the existing literature in Bhutan on male sexual abuse is silent, literature in the international front are replete with examples of males as victims of sexual abuse. Review of related literature also found that the push on accepting males as victims of sexual abuse in the international front is quite alarming. Hence, it is highly possible that there is a prevalence of male sexual abuse and that future studies focusing on the existence and prevalence of male sexual abuse is highly recommended.

Key finding4: There is a visible gap between college students' knowledge on responsible sexual behavior and their actual practice, therefore validating earlier findings from other studies.

Several studies on sexuality in Bhutan conducted earlier also echoed the same theme, though these studies used varying samples other than the college students. This college wide study also concludes with the same findings, which indicate that in general, knowledge has no impact on practice in the responsible handling of issues of sex and sexuality.

Section 5: Recommendations

Analyzing on the findings, the following recommendations are suggested.

1. Need for a Multi-sectoral Approach to address and intervene issues regarding sex and sexuality of college youth

Based on extensive data, the study concludes that there is an acute need to address the issue of the high prevalence and complication in young people's sexual life. International best practices support students to grow academically, intellectually and personally by addressing issues related to personal development. Presently some of the colleges tend to address the issue with the implementation of Comprehensive Sexuality Education with support from the UNFPA. However, for the

program to become successful and sustainable, the study strongly recommends the need for a multi-sectoral approach (inclusive of the Judiciary, the MoE, the RUB, the Police, the students, the parents and others) to come together to address the issue. The study found that the issue of youth sex and sexuality is like an iceberg, and the depth and danger of it is clearly evident, at different ages of young people. For example, though the present study looked only at the sexual behaviour of college youth, the more shocking news was the percentage of young people who indulged in sexual acts even before high schools. As presented in the findings section, the percentage goes on increasing for both boys and girls and as the students pass out from the high school the numbers swell. The study cautions that a segmented approach will not be effective and hence there is an urgent need to address this issue at all levels by the relevant stakeholders, taking a holistic perspective of looking into the attitudinal, behavioral and cultural aspect of the issue to come out with a sustainable, respectful and holistic solution.

2. Need for effective supervision of both academic and social life of college youth

While on field visits to some of the colleges, the researchers found that all of the sample colleges had shops surrounding the college campus. On inquiry, it was found that alcohol and other harmful substances were readily available to the students, if they wanted. Participants from different colleges cited stories of girls being dropped in the middle of the night by strangers in drunken states. Some of the colleges had rules that discouraged students to come to the hostels after 11o'clock as the main college gate got locked, and even if they were students they were not allowed to the campus, which added to risky outcomes. Hostel facilities in some of the colleges were acute concerns and participants strongly felt the need of the provision of hostel facilities to all the students. One of the sample colleges, where the prevalence was relatively lower than others, it was found that students were academically engaged and had very less time to indulge in other activities. Similarly where the prevalence was very high students complained of the need to address academic

rigor in the college. It is therefore recommended that the RUB addresses this issue by implementing effective strategies to supervise both the social and academic life of college students.

3. Need for effective advocacy and educational strategies to help youth development

Young people have been stressed as the most important population right from the monarchs to the various policies of the country. While this seems to be the intention, the strategies and skills used to support and enhance youth development do not seem to address the prevailing problems faced by the young people. Therefore, there is a need to look into the present advocacy and educational practices, whether they are grounded in thorough research or not and whether they can be contextually, culturally and developmentally effective or not. Several studies in the country have hinted on the ineffective ways in which issues related to sexuality is handled. In this study, respondents from one college for example, shared that they had an infirmary where the health officials were asked to address issues related to sexual health, while lecturers and management officials were very rigid on the discipline aspects. These health officials sometimes gave talks on sexual health but most of them irrelevant to students. Respondents suggested an initial survey could be helpful in understanding the present knowledge of the students and therefore coming up with better and relevant information. Respondents also shared, the college management in the same college should change its mindset that sexuality is just about sex and lust, and therefore it should be avoided from general discussion of "academic life". Interestingly participants in this FGD addressed each other as "Brother" and "Sister" in the entire discussion. Towards the end, just out of curiosity, the researcher asked them, "since you all address each other as brother and sister, what do you call a person with whom you have sex?" The respondents answered with laughter, we call them "Sexter". This hints at the hypocrisy being promoted and the obscurity that is encouraged by this particular college whether intentionally or unintentionally.

Improving the social environment to improve youth's attitude towards healthy approach to sex and sexuality

Schofield (2014, p.25) states that "Individuals and their behaviour are profoundly influenced by the social environments in which people find themselves". Existing literature about the issues concerning sex and sexuality in Bhutan assert the existence of casual sexual norm as compared to other south Asian countries. Some of the reasons of this existence could be a culture of accepting early marriage tradition in some of the communities in rural Bhutan, as well as the invisible influx of modern trends, western pop -culture, live in relationships in urban areas. Rising divorce rates, free availability of alcohol, break-down of traditional family system, and addressing issues of youth engagement in meaningful ways during school time as well as during holidays could also be important reasons for this high prevalence of risky sexual behaviour.

Hence, while young people seem to believe that sex is their right and that young people need to indulge in sexual activities, it is deemed necessary that relevant stakeholders need to emphasize on the responsibilities aspect as well, in showing to them the universal rights of all living beings to be respected of their spaces, the need to recognize the diversity of family arrangements, the commitment of the respect of law and order, and being careful that their sexual expressions are beneficial to themselves, their partners, their families, and their society. Another aspect that should also be addressed by the stakeholders is the notion of respectful, positive relationship. William Glasser in his classic book "Choice Theory: a New Psychology of Personal Freedom" assert that, "If we are not sick, poverty stricken, or suffering the ravages of old age, the major human problems we struggle with- violence, crime, child abuse, spousal abuse, alcohol and drug addiction, the proliferation of premature and unloving sex and emotional distress- are caused by unsatisfying relationship". (p. ix). He goes on to further remind that the four relationships that are in need of improvement are husband-wife, parent-child, teacher-student, and manager-worker relationships, and claims that if we do not improve these relationships, there will be "little success in reducing any of the problems" stated above.

It is important that policy makers, educators, parents, and other relevant stakeholders take this simple solution seriously and should intentionally try to improve the social environment.

Future research

Future studies can focus on what and where are the gaps in the implementation of sexuality education in the colleges of the RUB. What are the understanding and misunderstanding on the issues of sexuality. Research on what constitutes content and pedagogy that can help students to move towards positive behavioral change in sexual activity can be very important. Studies can also focus on effective advocacy strategies that can fit context and college culture. To achieve these goals, Action research or Participatory action research can be effective tools to discover college related problems and context suited solutions. Studies can also discuss issues related to what is meant by academic rigor in and across the colleges in the university. Related studies can also be done trying to explore the interventions used in schools and their effectiveness.

Conclusion

This study on understanding the prevalence of responsible sexual behavior of college students is a continuation of an earlier action research conducted in Paro college of Education by two of the present authors. The earlier action research study had concluded that there was a high prevalence of irresponsible sexual behavior and that "the focus of the leaders of the University and policy makers at large should be on intentional and committed creation of an enabling environment that promotes healthy, happy and motivated individuals, who are proud of their relationships, respectful of theirs and others' sexuality and mindful of their actions" (Gurung and Tshomo, 2015, p. 17). This study on the university wide prevalence of the sexual behavior of college youth has produced very significant understanding of youth behavior and their unhealthy practices. Based on extensive evidence from this study, this research therefore concludes that there is a high prevalence of irresponsible sexual behavior that plague our young people. This should be a huge concern for all the relevant stakeholders. A country genuinely

interested in a philosophy of development as grand as the Gross National Happiness cannot afford to let its youth, the future leaders in such an environment. Therefore, this report ends with a strong plea to all the relevant stakeholders to take the findings seriously and intervene as sensitively, as immediately and as intelligently as possible to help and guide our young generation.

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Factors Affecting Bhutanese Teachers' Attitude Towards Acceptance of Technology in Teaching

Sherab Tenzin[*] *and Rinzin Dorji*[**]

Abstract

Information and Communication Technology (ICT) is one of the tools available to enhance teaching and learning in schools. But in many developing countries, ICT is just being introduced and its integration is limited to schools.

This study is an endeavor to examine the factors that affect attitude of Bhutanese teachers towards adopting ICT in teaching. Four factors - Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Facilitating Conditions (FC) and Social Influence (SI) - have been used for regression analysis to find out their significance. The result of regression analysis of the data collected from 466 Bhutanese teachers revealed that all the factors significantly affected their attitude. However, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) have been seen to have greater significance than Facilitating Condition (FC) and Social Influence (SI).

Introduction

The most essential tool required in the 21st century school is technology supported by a policy framework to point towards the right direction. In Bhutan, however, as pointed out by Tobgay and Wangmo (Tobgay and Wangmo, 2008), the goal to equip school, with technology seems bleak when looking at the Ministry of Education's aim of achieving computer-student ratio of 1:20 in lower secondary and primary schools by 2020, 5 years from now.

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A study by Tenzin and Bhattarakosol (2013) showed encouraging result regarding Bhutanese teachers' view towards technology. It has shown that although the Bhutanese educators are ready and willing to welcome the introduction of technology in the teaching/learning process, the actual ICT integration was lacking. Therefore, there was a need to study the factors that affected the attitude of teachers towards technology adoption in teaching.

Literature review

Many researchers have shown that technology can enhance learning outcomes in students. Technology can motivate students and offer access to information beyond the confines of the class room. The advantage of technology in education has been firmly established by many studies.

The effort to infuse technology in teaching is by no means recent. Effort has been put by different countries with varying degrees of success. In case of Bhutan, analogue telecommunication network was launched in 1963 and computers during the early 1980s. However, television and internet were introduced much later in the year 1999 (Tobgay and Wangmo, 2008). Therefore, the history of technology in education is a fairly recent phenomenon in Bhutan. Not much has been achieved although effort has been made to integrate technology in classroom teaching. There is a dire need for literatures to kick-start the effort to implement technology in classroom teaching. Currently in Bhutan, computers in schools are mainly used for teaching IT to students taking the subject. Other students rarely visit computer lab because, besides the IT teachers, other subject teachers hardly use computers for teaching. Amenyedzi, Lartey et al. (2011) reported that teachers use technology mostly for daily routine works. Gyeltshen (2013) also reported that teachers in Bhutan use computers mainly for preparing question papers.

Ertmer (n.d.) argued that the decision to implement technology in classroom teaching rests on the teacher and urged the need to examine the beliefs the teachers have regarding technology. It is, therefore, important to study attitudes of teachers towards

use of technology in teaching. Attitude toward ICT adoption in classroom teaching has been identified by several studies as the major factor that leads to integration of ICT in the classroom teaching. Factors that affect attitude towards technology use was studied by Davis (1998). They proposed Technology Acceptance Model (TAM) which suggested that a person's behaviour intention to use technology is affected by Perceived Ease of Use (PEOU) and Perceived Usefulness (PU).

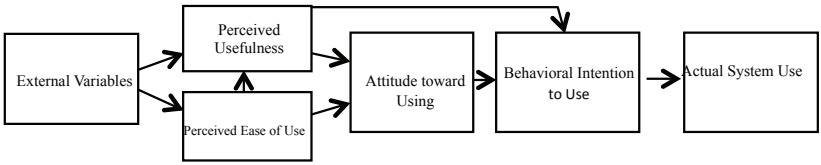

Figure 1. Technology Acceptance Model (Davis 1989)

The model for our study is adapted from TAM with two additional factors besides PEOU and PU. The two additional factors are Facilitating Condition (FC) and Social Influence (SI). These four factors are further explained below.

Perceived Ease of Use (PEOU): Perceived ease of use is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1998). It directly influences teacher's behavior intention to use the technology. Teachers would not risk making mistakes in their teaching by using technology that is difficult to use. They will not risk exposing their weakness to be taunted by the students. Hence teachers will make use of those systems that are easy to perfect, over which they can have total control and confidence.

Perceived Usefulness (PU): Perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1998). If a teacher believes that technology use will benefit him or her, they would be willing to make use of it. Faud and Sharifah (2013) pointed out perceived usefulness as a direct determinant of technology use.

Social Influence (SI): Social influence refers to the influence on one's emotions, opinions, or behaviour by others action or behaviours especially by somebody who is important in one's life. In schools, principals can have significant effect upon the behavior of teachers. A teacher sharing success story of the technology integration can raise curiosity of their fellow colleagues. A group of teachers supporting each other by sharing resources, pedagogical practices and helping each other will have greater chance of successful integration than a teacher who is not extended any support for his/her effort.

Facilitating Conditions (FC): Resources refers to hardware, software and even technical assistant. Most schools in Bhutan have a single computer lab with an average of 15 computers in higher secondary schools, 13 computers in middle secondary schools, 9 to 3 computers in lower secondary and primary schools (Ministry of Education, 2012). With a huge number of students in schools, it will be difficult to provide computer access to every class. Many researchers in the field felt that every class should be equipped with a system and a projector to be able to utilize technology while teaching - a distant dream for the Bhutanese education system. Availability of hardware should be supported by suitable software to be of any benefit. Technical Assistant is yet another important element necessary to aid and support the teaching faculty in their effort to integrate technology. The success rate to integrate technology into teaching would drop significantly if any of the aforementioned factors is not present in the school. A study by Kinley, et al. (2013) indicated that lecturers in Samtse College of Education, a teacher training college in Bhutan, pointed out internet as an important resource to encourage them to engage in adopting technology.

Teacher's Attitude Towards ICT (ATT): Attitude is defined as teacher's perception of technology in teaching. It is also defined as the positive or negative feeling of an individual and the effect the feeling have on their behaviour. Attitude is one of the main factors that can directly influence the behavior intention to use the technology. Several studies conducted in institutions that

were well equipped with technology (hardware and software) has revealed attitude towards technology to be an important factor influencing adoption of technology in teaching.

Method

A paper-based survey consisting of 34 items were constructed to conduct the survey. The survey questionnaire was split into two major sections. The first section contained question that inquired demographic details of research participants such as their age, teaching experience, gender etc. The next section containing 28 items were Likert Scale questions. The scales ranged from 1 to 5 (5: strongly agree, 4: agree, 3: neutral, 2: disagree, 1: strongly disagree). These questions inquired the views of teachers on the factors considered for the study. The questions were adapted from two papers – Hsu et al (2007) and Teo (2011).

Teachers teaching pre-primary schools to higher secondary school were asked to fill the questionnaire based on their willingness to participate in the study. The survey was conducted for over a month in March 2013. 466 teachers' responses from around the country were finally considered for analysis. The items from the second section of the questionnaire are shown below.

1. Technology-based instruction can improve learning achievement.
2. Technology-based instruction is one of the future trends in education.
3. Technology-based instruction can make my teaching more lively and energetic.
4. Technology-based teaching can increase students' motivation.
5. School policy on implementing technology-based instruction is most suitable.
6. Using technology will create good relationship between teacher and students.
7. Technology helps me create an innovative teaching

technique.

8. I have designed activities that allow students to learn through the Internet.
9. I have used pictures, audios, videos, animations and educational software to promote learning.
10. I have used document management software, such as Word and PowerPoint, in classrooms.
11. I have used email or Face book to interact with my students
12. In my school my colleague use technology in their teaching
13. In my school, teachers often discuss computer-related topics and exchange ideas about computer hardware and software.
14. In my school, administrators provide hardware for supporting technology-based instruction.
15. In my school, administrators provide software for supporting technology-based instruction.
16. When I encounter difficulties in using technology, a specific person is available to provide timely assistance.
17. In my school there is enough financial support to create and use technology in learning.
18. I will not feel anxious when I take any computer-related courses.
19. Learning software will NOT make me feel nervous and uncomfortable.
20. I feel technology will replace teachers in the future
21. While using technology I feel that student will lose their attention to the subject content and me.
22. Once I start using technology, I find it hard to stop.
23. I look forward to those aspects of my job that require the use of technology.
24. I like working with technology.
25. Learning to use technology is easy for me.
26. My interaction with technology does not require much effort.
27. I plan to use technology in the future.

28. I have no intention to use technology in my class.

Data analyzing method

Reliability analysis with accepted Cronbach's alpha value set at 0.7 to test the reliability of the questions was carried out followed by factor analysis to group the questions under different factors. Finally, regression analysis was performed on the four loaded factors after factor analysis to validate the hypothesis drawn for the study. Regression analysis shows the effect of independent variables on the dependent ones, hence regression analysis was employed to try to discover factors that positively affect attitude of teachers towards acceptance of technology by Bhutanese teacher in their classroom teaching. Technology Acceptance Model, postulated by Davis was the base for the model adopted for the research. Two additional factors, Social Influence (SI) and Facilitating Conditions (FC) were considered taking into account the context of Bhutanese society besides the other two factors, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) proposed in TAM model. The extended TAM model proposed for the study is shown in the Figure 2.

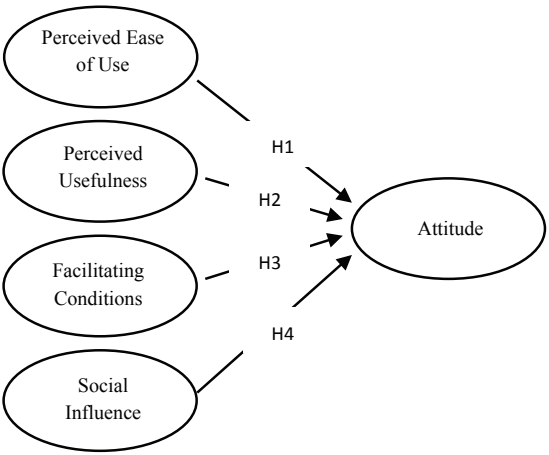

Figure 2. Research Model

The proposed model therefore has four independent factors viz. Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Facilitating Condition (FC) and Social Influence (SI). Attitude (ATT) of teachers towards ICT adoption in teaching is the lone dependent factor.

The following four hypotheses were drawn:

H1: Perceived Ease of Use has a significant effect on attitude towards adopting ICT in teaching.

H2: Perceived Usefulness has a significant effect on attitude towards adopting ICT in teaching.

H3: Facilitating conditions has a significant effect on attitude towards adopting ICT in teaching.

H4: Social Influence has a significant effect on attitude towards adopting ICT in teaching.

Analysis result

Reliability test

Reliability Test to test the internal consistency of the items generated the results shown in Table 1. No question/item was required to be eliminated since α value for all the constructs were greater than the accepted standard reliability coefficient value of 0.70.

Table 1. Result of the reliability test

Constructs	Items Code	Cronbach's alpha (α)
Perceived Usefulness (PU)	PU1 PU2 PU3 PU4 PU5 PU6 PU7	0.839
Social Influence (SI)	SI1 SI2	0.78
Facilitating Conditions (FC)	FC1 FC2 FC3 FC4	0.846
Perceived Ease of Use (PEOU)	PEOU1 PEOU2	0.845
Attitude (ATT)	ATT1 ATT2 ATT3 ATT4 ATT5	0.716

Factor analysis

For factor analysis, principle component analysis was used. Factor analysis generated groups of questions that were related to each other. These related questions were grouped under four different factors. Five items were loaded into perceived usefulness, four items were loaded into facilitating conditions, and two items each were loaded into social influence and perceived ease of use as shown in Table 2.

Table 2. Rotated Component Matrix[a]

Item Code	Component			
	1	2	3	4
PU3	0.832			
PU4	0.816			
PU1	0.779			
PU2	0.721			
PU5	0.66			
FC2		0.85		
FC1		0.84		
FC4		0.816		
FC3		0.71		
PEOU2			0.914	
PEOU1			0.896	
SI1				0.837
SI2				0.814

Regression analysis

Regression analysis was applied to the factors loaded after the factor analysis. Regression analysis was used to identify factors that influence the attitude of teachers toward ICT adoption in teaching. Table 3 shows the result of the regression analysis.

Table 3. Result of the regression analysis

Model	B	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	-.001	.036		-.021	.983
	PU	.353	.036	.353	9.702	.000
	FC	.173	.036	.173	4.757	.000
	PEOU	.458	.036	.458	12.581	.000
	SI	.170	.036	.170	4.657	.000

The result of the regression analysis shows that all the factors significantly affect teachers' attitude towards ICT adoption in teaching. Of these four factors, perceived ease of use ($\beta = 0.458$, $p < 0.001$) and perceived usefulness ($\beta = 0.353$, $p < 0.001$) are the most significant. These findings are consistent with findings in many studies (Faud and Sharifah, 2013; Teo, 2011; Davis, 1998), which found perceived ease of use and perceived usefulness to have positive significance on attitude and behaviour intention to use technology. Therefore, it can be concluded that Bhutanese teachers will use technology if they perceive that technology use can enhance their productivity and when they find technology easy to use. Facilitating condition ($\beta = 0.173$, $p < 0.001$) and Social Influence ($\beta = 0.170$, $p < 0.001$) are also significant factors influencing attitude of teachers for adopting ICT in teaching. Figure 3 shows the model displaying the result of the regression analysis.

Bhutan has remained in isolation until the 1960s. Though Bhutan is modernizing at a very rapid pace, the social dependence is very strong and effect of urbanization at the moment has not affected the traditional social structure and interdependence among Bhutanese people. In fact "community vitality" has been recognized as one of the nine domains of Gross National Happiness, the development philosophy of Bhutan (Dorji, 2013). Hence this justifies, why social influence

emerged to have positive significance on the attitude of teachers in adopting ICT in classroom teaching.

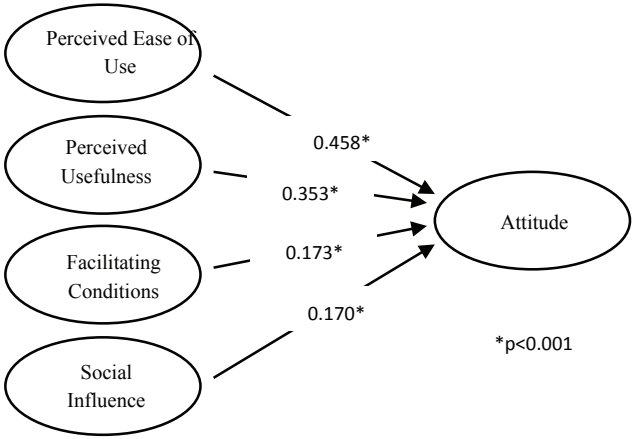

Figure 3. Result of regression analysis

Conclusion

Result of the regression supported perceived usefulness and perceived ease of use to have greater significance than facilitating condition and social influence on attitude of teachers towards ICT usage in teaching. This indicates that in order for teachers to develop positive attitude towards technology, teachers must be aware of the benefits of adopting technology in their teaching. Training of teachers to use technology seems to be necessary because if teachers perceives using technology to be difficult, it would affect their attitude towards technology.

In conclusion we can confidently say that the number of Bhutanese teachers adopting technology in their teaching will increase with time. ICT facilities in schools are being developed at a faster pace than it has ever happened before. More importantly, the younger, generations of teachers joining the teaching profession are confident technology users, thus eliminating the need for vigorous training that was deemed

highly necessary in the past.

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Socioeconomic Determinants of Fertility in Thimphu City: The Effect of Baby Sitter

Wangchuk[*]

Abstract

A study was carried out to ascertain the socio-economic determinants of fertility in Thimphu City. In particular, the purpose of the paper is to assess the impact of the availability of Baby Sitter on fertility measured as number of children in the family. The explanatory variables used in the study are: Age of the Respondent, Age at Marriage, Duration of Breastfeed in months, the factor of availability of Baby Sitter, Education Level, number of Work Hours, Duration of Separation from the Spouse, Income Level and the use of Contraception.

The research method used is quantitative with a structured questionnaire administered to a sample size of 150 married men and women who are both working in Thimphu City and within the age range of 15 to 49 years. The respondents are also living in Thimphu City itself and the sample comprised of 68% female and 32% male. A multiple linear regression is used to develop the econometric model of socio-economic determinants of fertility based on Bongaarts' Proximate Determinants of Fertility Model.

72% of the respondents agreed to the statement that they cannot go for more than two children because they cannot find baby sitter while only 14% disagreed to the same statement. The Age of the Respondent, Age at Marriage and the factor of availability of Baby Sitter are only the explanatory variables found to have statistical significance in determining the fertility in Thimphu City.

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Introduction

In Bhutan, with rapid modernization taking place in urban places such as Thimphu combined with rising cost of living, it has become costly for families to have higher number of children. Moreover, the nuclear family began to emerge in the urban places and with it the class of both the spouses working. Therefore, there is demand for baby sitter to look after the children in absence of grandparents in extended family who took care of the children. The problem has been compounded with those employees from neighboring countries mostly India working as baby sitters being evicted from the country. This probably led to decline in the fertility particularly in urban areas. Therefore, this paper attempts to study socio-economic determinants of fertility in Thimphu and whether the factor of availability of Baby Sitter (BS) has statistical significance in determining the fertility level in Thimphu City.

The natural increase was the main cause for the increase in population. However, the factors got complex in the contemporary period as several other factors influenced population either explicitly or implicitly. Education of the parents and the increasing cost of raising children influenced fertility to a great extent. Moreover, with rapid development in Bhutan, children as an additional labour input in the farm are disregarded, which existed in the traditional society in the past.

Education level and female labour force participation has definite implicit impact on the number of children born by women. According to Karakaya (2012) adult literacy rate, female work participation and proportion of people living in urban areas had significant statistical impact on the determination of fertility rate in the provinces of Turkey. As the spouses are literate and become aware, the tastes for children become different. Thus, various methods of family planning are adopted to control the children.

Total Fertility Rate has been constantly declining in Bhutan since 1991 from that of 6.1 to 3.6 in 2005. The decline was ascribed partly to increasing number of girls' enrollment in

schools and their work participation rate as per Gross National Happiness Commission (GNHC, 2010). With the introduction of parliamentary democracy in 2008, girls' enrollments in schools have significantly increased with every party pledging to achieve universal primary education through different strategies. According to Bhutan Living Standard Survey (BLSS) 2012 Report of National Statistis Bureau, the Female Primary Gross Attendance Ratio is 115.7% (BLSS 2012, Table A3.14) while Female Primary Net Attendance Ratio is 91.6% (BLSS 2012, Table A3.16)

Problem statement

Nuclear family began to emerge in urban areas such as Thimphu and both the spouses began to work to supplement the family income. Therefore, there is demand for baby sitter to look after the children in absence of grandparents in extended family who took care of the children. Moreover, with increasing living standard in Thimphu and with frequent occurrence of inflation, people could not simply afford higher number of children.

Prior to 2010, there were substantial numbers of illegal workers particularly from neighboring states of India working as baby sitters in urban areas such as Thimphu. According to APFA NEWS (2010), a total of 130 people were arrested in 2010 for illegally working as housemaids and baby sitters in the western districts including Thimphu. With such implementation of rules, working spouses were finding difficult to manage households and thus influenced the number of children they would have. Therefore, this study made an attempt to ascertain whether issue of baby sitter has real significant impact in determination of number of children in a family besides other socio-economic determinants.

Definition of key concept

Various authors define fertility differently, and use various measures to study fertility differentials using both cross-sectional and longitudinal data. Bhende and Kanitkar (2010, p.251) defined fertility as "the actual level of reproductive performance determined by social, cultural, psychological as well as economic

factors." The social, cultural, and economic factors have been particularly relevant in developing countries such as Bhutan for increased fertility. According to the United Nations as cited in Bhende and Kanitkar (2010, p.250), fertility "refers to the actual reproductive performance - whether applied to an individual or group." Pathak and Ram (2013, p.108) stated that, "Fertility is defined as the child bearing performance of women or a group of women measured in terms of the actual number of children born." Dinh (1997) defined fertility as the "number of children ever born." The study carried out by Mohapatra and Roy (2010), on work and fertility linkage in women in Bhubanesar city also measured fertility as the "number of live births in the family." Although various authors define fertility differerently, there is no significant discrepancy in their meaning. However, for this study, the definition of Mohapatra and Roy (2010, p.45), which states that fertility as the number of live births by an individual women will be used as this definition is more explicit and easily measurable for individual fertility studies. The other measures of fertility such as total fertility rate (TFR), gross reproductio rate (GRR) are difficult to measure and applies to a group.

Significance of the study

Although there are well established theories such as physiological, social and cultural factors affecting fertility (Bhende and Kanitkar, 2010), proximate determinants of fertility (Bongaarts, 1978) and Becker's Economic Theory of Fertility (1960) as cited in (Bhende and Kanitkar, 2010), which explains the determinants of fertility, all of those theories has explicitly not stated the impact of availability of baby sitter on fertility. Therefore, this paper attempted to bridge the knowledge gap by studying the impact of baby sitter on fertility. The statistical significance of its impact on fertility would also be explored besides just frequency distribution of the responses.

Objective

The main objective of the study is to find out what are the significant socio-economic determinants of fertility in Thimphu City from these explanatory variables such as Education Level (EL), Monthly Income (MI), Age at Marriage (AM), Factor of

Availability of baby sitter (BS), Age of the Respondent (AR), Numbers of usual hours of work done in a day (WH), Duration of Breastfeed in months (DB). The control variable is created through interaction variable using Young (computed binary variable called Young using Age as those younger than mean years of 34 years as young and the rest as old) and those who Do not Use Contraception. The other important objective is also to ascertain whether the factor of availability of BS has significant impact on fertility

Research question

Does the factor of availability of BS have statistical significance in determining the number of children in a family in Thimphu City?

Hypotheses

The hypotheses of this research are:

1. Null hypothesis: None of the independent variables viz. EL, MI, AM, Factor of Availability of BS, AR, WH, DB and; interaction variable Young and Do not Use Contraception is capable of predicting the Number of Children at 0.05 significance level
2. Alternative hypothesis: At least one of the independent variables is capable of predicting the number of children at 0.05 significance level.

Limitations of the study

1. Although the study population is those married couple who are both working in Thimphu city, the sampling technique applied is purposive sampling which is nonprobability sampling and thus the results applies only to the sample and not the population.
2. As the impact of availability of BS is studied for the first time, the use of Likert Scale to measure the factor of BS may not be an accurate or appropriate measurement.
3. The age limit for men is also set from the age 15 to 49 years although biologically men can become a father beyond 49

years.

Literature review

Throughout the world, the studies on the determinants of fertility have been largely explained through Demographic Transition Theory (Notestein, 1945). Mostly based on longitudinal data, the theory posited that change in fertility is determined by various socioeconomic factors. Similarly, using sample survey data, this theory was supported by Hirschman and Guest (1990) as reported in Dartanto (2013), that socioeconomic factors changes the fertility. Omran (2005) maintained that literacy, mortality and the desire for material wealth are some of the risk factors that affect fertility. Basically, the theory explains the changes of fertility and the population over time; however, it did not clearly explain as to what are the actual determinants of fertility.

Although the quantitative study of fertility has gained popularity in demographic research, however, there is limited credible research done in the South Asian region (Dartanto, 2013). Therefore, the paper will focus on the few articles available in the South Asian and Southeast region to evaluate and conceptualize the determinants of fertility in Bhutan.

According to Dartanto (2013), infant mortality was the principal factor in determining high fertility. He also found out that the demand for fertility follows the demand for goods which validates the Beckar's (1960) model of fertility. The explanatory variables that were used for his study included: female education, infant mortality rate, income per-capita, price and ratio of urban population to total population. The data used was the panel data which enabled the control of unobservable country-specific characteristics that may be correlated with fertility behavior. However, the standard error of the multi linear regression estimator to estimate the TFR is not given. Moreover, the collinearity statistics is also not mentioned as the independent variables such as income and education could be highly correlated.

According to Dinh (1997), education has an important impact

on determining fertility in Vietnam. He also found out that husband's characteristics play as vital role as that of wife in influencing the level of fertility. The independent variables used in his study were: age, length of marriage, education, type of residence and sector of employment. The study used different regression models such as OLS, Ordered-logit model, and Poisson model and found that there were no significant differences in the coefficients of the independent variables. However, the impact of these variables were separately studied for both the spouses in which the impact of one of the spouse would influence the other. The study was based on the model of microeconomic approach to fertility. He defined fertility as "the number of children ever born."

The model of Kingsley Davis and Judith Blake (1956) classifies "intermediate variables" based on social, cultural and economic factors. In total, there are eleven variables which are broadly classified under three categories, such as: (i) Intercourse variables, (ii) Conception variables and (iii) Gestation variables (Bhende and Kanitkar, Principles of population studies, 2010). However, none of these eleven variables have explecitly stated the effect of the availability of BS on fertility. The intermediate variables model led to the development of the model of "proximate determinants of fertility" (John Bongaarts 1978). This model is also termed as "intermediate fertility varaibles" such as marriage, contraception, lactation and induced abortion (Bongaarts, 1978). The model has been used among populations of different countries or subgroup of populations within the same country.

According to Akmam (2002), education was found to be the most important factor in determining fertility in Bangladesh. Although the affects was indirect or through other intermediate affects, a significant inverse relationship between education and fertility was observed. In addition, fertility is determined by the supply of children, the demand for children and the material and non-material costs of fertility regulation (Bulatao and Lee 1983) as cited in Akman, (2002). A study conducted in 33 predominantly Muslim countries found that socioeconomic

conditions are the main causes of high fertility rates (Yurtseven, 2015). Furthermore, he observed an inverse relationship between economic development and fertility rates. As noted by Becker (1981) in Yurtseven (2015), higer education level and women's labour force participation rate lowers the fertility. This may be because there is increasing opportunity cost involved with higher level of education and work. In Bangladesh, a decline in fertility has been associated with women's role in household decision making and control over resources which measures autonomy of the wormen (Amin and Lloyd, 2002).

According to Tayaraman, Mishra and Arnold (2009), parity and family sex-composition were strongly related to fertility desires in South Asia. In general, although, women desiring to have another children decreased with each parity, there is preferance for boys. 51% of women in Nepal with two daughters wanted to have another child compared to with only 6% of women who already had two sons (Tayaraman, Mishra, and Arnold, 2009). As reported by Mohapatra and Roy (2010), in their study of work and fertility linkage of 140 women in Bhubaneswar city, education, age at marriage and income had negative relationship to fertility while work hours had positive relationship. This positive relationship between work hours and fertility is argued from the incompatibility of work role rather than the work itself and suggested that Indian women are capable of handling worklife balance. Their study adopted OLS regression model. The dependent varaible was live birth while independent variables were: individual income, family income, working hour, educational qualification and age at marriage. Income (both indivudual and family income) and educational qualification were found to be the most significant predictors for the live birth in sample study of 140 women in Bhubaneswar city.

From the literature review the dependant variables identified are: Level of Education, Monthly Income, Age at Marriage, Age of the Respondent, Numbers of usual hours work done in a day and duration of Breastfeed. The factor of availability of BS and the interaction variable of those younger than 34 years and do

not use Contraception is introduced to the model to study their effect in determining the fertility.

Method

Research design

A quantitative approach design is used for this study to build the econometric socio-economic fertility model. A structured questionnaire is exclusively used comprising of both open ended and closed ended questions. A five scale Likert scale questions is also adopted to particularly capture the responses on the availability of baby sitter and its impact on the fertility.

Study population

The target population for this consists of all married couples who are both working and within the age of 15-49 years living in Thimphu city. Although the legal age for marriage in Bhutan is from 18 years and above, the lower limit is considered from 15 years because it is internationally accepted age limit in Demography and in Bhutan also there are cases of women giving birth from the age 15 years. For instance, 2.9% of the women in Thimphu gave live birth according to Bhutan Multiple Indicator Survey Report (NSB 2010, p.107).

Sampling

The purposive sampling technique is used as the population under study is unknown and hence frame is not available. The sample comprises of those married men and women whose spouses are also working. The sampling unit comprises from civil servants, corporate employees, private business and own account workers.

The sample size is arrived at using Cochran's infinite equation to determine the sample size for unknown population (Kothari, 2004).

$$n = \frac{Z^2 pq}{e^2}$$

where Z= The value of variance at a confidence level
p= sample proportion
q=1-p
e= Acceptance error

Thus, taking 50% sample proportion at 95% confidence level with 8% of confidence interval, the sample size is computed to be

$n= ((1.96)^2 * 0.5(1-0.5))/ (0.08)^2$

Data collection methods and instruments

The primary data is collected through structured questionnaire from those men and women who are working and whose spouse is also working. The majority of the data is collected through survey and few through online google survey for those with internet access. There were only few people who responded to the online survey.

Data analysis

A Likert scale is used to measure the effect of factor of availability of BS to the fertility. The data generated from the survey questionnaire is analyzed using SPSS and Microsoft Excel. The Microsoft Excel is basically used as worksheet to prepare the data for analysis in the SPSS and also to prepare graphs and charts. The econometric model of socioeconomic determinants of fertility is constructed using Multiple Linear Regression. The test of Collinearity Statistics is done for the independent variables so as to correct the model and remove some independent variables if there is existence of Multicollinearity. The Pearson's Bivariate Correlations between the variables is also conducted besides the descriptive statistics, such as measures of central tendency and measures of variations.

Results and discussions

Overall, 53% (see Table 1) of the respondents strongly agreed to the statements that they cannot go for more than two children because they cannot find baby sitter.

Table 1. Agreement to the Statement that you cannot go for more than two children because you cannot find Baby Sitter

Agreement on Baby Sitter		Frequency	Percent	Valid Percent
Valid	Strongly Disagree	8	5.3	5.4
	Disagree	12	8.0	8.1
	Neither Agree nor Disagree	21	14.0	14.2
	Agree	27	18.0	18.2
	Strongly Agree	80	53.3	54.1
	Total	148	98.7	100.0
Missing		2	1.3	
Total		150	100.0	

Only 8 respondents of the total 148 which comes to 5.4% strongly disagreed to the statement while 14.2% neither agreed nor disagreed to the statement. Overall, 72.29% agreed to the statement (sum of Agree and Strongly Agree) while only 13.52% (sum of Strongly Disagree and Disagree) disagreed to the statement.

In terms of comparison across different educational level, Undergraduate had responded the highest on Strongly Agree with 45% while those with Masters or PhD the lowest with 15% (see Table 2). Those with Secondary and Masters or PhD equally scored the lowest on Strongly Disagree with 14.3% while again Undergraduate also responded the highest on Strongly Disagree with 42.9%.

Table 2. Agreement to the Statement by Different Level of Education

Agreement on Baby Sitter	Level of education						Total
	NE	P	S	D	U	M/ PhD	
Strongly Disagree	0.0%	0.0%	14.3%	28.6%	42.9%	14.3%	100%
Disagree	0.0%	0.0%	33.3%	16.7%	33.3%	16.7%	100%
Neither Agree nor Disagree	0.0%	0.0%	23.8%	19.0%	52.4%	4.8%	100%
Agree	0.0%	0.0%	37.0%	18.5%	44.4%	0.0%	100%
Strongly Agree	0.0%	0.0%	18.8%	21.3%	45.0%	15.0%	100%

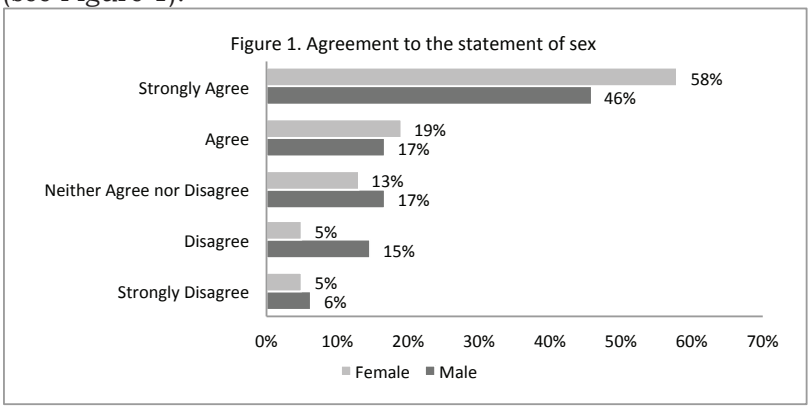
Note: NE= no education; P=primary; S=secondary; D=diploma; U=undergraduate; M=masters

The data is analyzed by the category of sex to find out the gender difference in responses to the statement. Out of the total responses on Strongly Agree, 72.5% was responded by the female while only 27.5 % was responded by male (see table 3). The response of the female was significantly higher than that of male and this could be due to the general practice that female bear more burden in raising children than man. In contrast, again response to the Strongly Disagree was significantly higher for female with 62.5% while it was just 37.5 % for male. This contrasting result could be due to composition of the sample that female comprises 68% of the sample while the rest only 32% is comprised of male.

Table 3. Agreement to the Statement by Sex

Agreement on Baby Sitter	Sex		Total
	Male	Female	
Strongly Disagree	37.5%	62.5%	100.0%
Disagree	58.3%	41.7%	100.0%
Neither Agree nor Disagree	38.1%	61.9%	100.0%
Agree	29.6%	70.4%	100.0%
Strongly Agree	27.5%	72.5%	100.0%

Therefore, an analysis of how female and male rate themselves is carried out. Out of the total female, 58% responded to the Strongly Agree while only 5% responded to the Strongly Disagree (see Figure 1).



13% of the female responded to the neither Neither Agree nor Disagree against 17% of the male. Male responded slightly lower than female to the Strongly Agree category with 46% while the response to the Strongly Disagree was almost identical with 6% only. In general, the type or response was same for male and female with highest percentage to the Strongly Agree and a decreasing trend towards that of Strongly Disagree except male where the response on Agree and Neither Agree nor Disagree was equal with 17%.

The questions were asked as to whether they would like to have more than two children and if not what was the reason for not desiring to have more than two children. Majority of the respondents (65%) said that they would not like to have more than two children while little over one-third (35%) of the sample reported that they would like to have more than two children.

81.3% of those with the highest level of education (Masters/ PhD) responded that they would not like to have more than two children (see Table 4) while it was the maximum with 43.3% for Diploma level who said they would like to have more than two children. Generally, higher the level of education, higher is the percentage point of respondents who said that they would not like to have more than two children except with Diploma which is slightly lower than the Secondary. This finding from the sample confirms to the findings of Mohapatra and Roy (2010) where their regression equation had negative significant beta coefficient for level of education measured in number of years in school.

Table 4. Desire to Have More than Two Children by Education Level

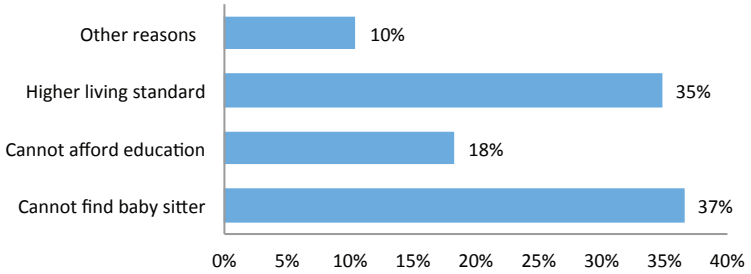
Like to have more than 2 children	Level of education					
	NE	P	S	D	U	M/ PhD
Yes	0.0%	0.0%	37.1%	43.3%	32.4%	18.8%
No	0.0%	0.0%	62.9%	56.7%	67.6%	81.3%
Total	0.0%	0.0%	100.0%	100.0%	100.0%	100%

Note: NE= no education; P=primary; S=secondary; D=diploma; U=undergraduate; M=masters

37% of the respondents said that they do not like to have more than two children because they cannot find baby sitter while 35% and 18% responded Higher Living Standard and Cannot Afford Education respectively as the reason (see Figure 2). The

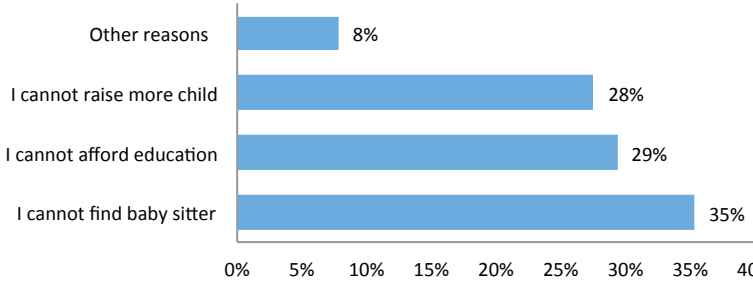
rest 10% of the respondents cited other reasons which consist of reasons such as health and small family being happy family as other reasons.

Figure 2. Reasons for not liking to have more tha two children (in percent)



Although majority of the respondents said two children as their ideal number of children, there were various reasons for particular number of children ranging from one to five children as their ideal number of children. The reason that one cannot find baby sitter was the highest with 35% (see Figure 3) followed by not being able to afford education with 29% which is closely followed by not being able to raise more child (28%). The other reasons than those cited was the least with 8% only and the reasons were similar to that of other reasons in not liking to have more than two children.

Figure 3. Reasons for Ideal Number of Children (percent)



The duration of separation from spouse in a month was categorized into five categories based on the number of days of separation from spouse; Never (zero days of separation), Occasional (1 through 7 days), Frequently (8 through 14 days), Most of the time (15 through 29 days) and, Always (30 days or entire month). Both male and female respondents had Occasional separation from the spouse as the highest percentage with 56.3% and 41.6% (see Table 5) respectively. In the male category, none of the respondents said that they were always separated from spouse while in the female category, 6.9% said that they were always separated from their spouse. However, those female who said that they were always separated from their spouse were the lowest.

Table 5. Duration of Separation from Spouse

Sex	Duration of separation from spouse					Total
	Never	Occa-sional	Freq-uently	Most of the time	Always	
Male	29.2%	56.3%	10.4%	4.2%	0.0%	100%
Female	16.8%	41.6%	18.8%	15.8%	6.9%	100%

Econometric model of multiple linear regressions

The econometric model of the determinants of the fertility was developed using multiple linear regression. The dependent variable is the Fertility (F) while the independent variables considered to develop the model are: Age of the respondent (AR), Age at first Marriage (AM), Duration of Breastfeed in months (DB), Factor of availability of Baby Sitter (BS), Education Level (EL), usual Number of Work Hours in a day (WH), Duration of separation in days in a month (DS), Monthly Income Level converted to log (IL), Use of Contraception (UCont), Not use of Contraception (NCont) and the interaction variable of those who do not use contraception and young in which young is considered as those younger than mean age of 34 years of the sample (NCont*Young) created as control variable in the model. Thus the model is represented as

$$Y = \propto_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \cdots . \beta_{11} X_{11} + \varepsilon \ldots\ldots\ldots equation\ 1$$

$$Where\ Y = \text{F},\ \propto_0 = Intercept, X_1 = AR,\ X_2 = AM,\ X_3 = DB,\ X_4 = BS,\ X_5 = EL,$$
$$X_6 = WH,\ X_7 = DS,\ X_8 = IL,\ X_9 = UCont.,\ X_{10} = NCont.,\ X_{11} = NCont * Young$$

Although the model accounts for 32% of the variance (see Table 6), however, the model is fit at 95% confidence level as P = 0.000 (see Table 7) which is less than the α = 0.05 Therefore, the null hypothesis of that none of the independent variables is capable of predicting fertility is rejected.

Table 6: Summary of the econometric model of determinants of fertility

Model Summary[b]			
R	R Square	Adjusted R Square	Std. Error of the Estimate
0.619a	0.383	0.320	0.611

a. Predictors: (Constant), NCont*Young, DS, DB, Log Income, AR, agreement on BS, No of WH, EL, AR, Use contraception
b. Dependent Variable: No of Children

As the model is fit, an individual variable is analyzed as to find out which of those is capable of predicting fertility at 95% of confidence level. By looking at the p values of each independent variables (see Table 8), one can infer that, only three independent variables such as AR, AM and BS are statistically significant while rest of the explanatory variables are not even significant at 90 confidence level. The AR and AM are even significant at 99% of confidence level.

Table 7. ANOVA analysis

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.931	10	2.293	6.141	0.000b
Residual	36.969	99	0.373		
Total	59.900	109			

a. Dependent Variable: No of Children
b. Predictors: (Constant), NCont*Young, DS, DB, Log Income, AR, Agreement on BS, No of WH, EL, AR, Use contraception

Therefore, the equation to predict the fertility would be

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_5 X_5 + \varepsilon \ldots\ldots equation\ 2$$

$$Y = 3.450 + 0.055AR + -0.093AM + -0.133BS + \varepsilon \ldots\ldots equation\ 3$$

Table 8. Regression Coefficients

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.450	1.293		2.667	0.009
AR	0.055	0.014	0.359	3.825	0.000
AM	-0.093	0.023	-0.335	-3.995	0.000
DB	0.002	0.006	0.025	0.296	0.768
BS	-0.133	0.055	-0.204	-2.405	0.018
EL	-0.062	0.039	-0.137	-1.581	0.117
WH	-0.031	0.034	-0.075	-0.897	0.372
DS	0.005	0.007	0.060	0.721	0.472
IL	0.106	0.292	0.032	0.364	0.717
Ucont	-0.043	0.166	-0.026	-0.257	0.798
NCont* Young	-0.289	0.264	-0.113	-1.098	0.275

a. Dependent Variable: No of children

There is no existence of multicollinearity between the independent variables as variance inflation factor (VIF) is less than 10 and the tolerance is greater than 0.10 for all the explanatory variables (see Table 9).

Table 9. Test of Collinearity

Model	Collinearity Statistics	
	Tolerance	VIF
AR	0.707	1.414
AM	0.887	1.128
DB	0.860	1.163
BS	0.866	1.154
EL	0.826	1.211
WH	0.891	1.123
DS	0.915	1.093
IL	0.792	1.262
Ucont	0.611	1.636
NCont*Young	0.591	1.692

Fertility and age of respondent

The Age of the Respondent as an explanatory variable has positive coefficient of 0.055 with a standard error of 0.014. This finding confirms with the Theoretical Maximum Fertility which states that "a woman would get 37 children, if she gave birth to a child every ten months over a period of 31 years" (Bhende and Kanitkar 2010, p. 255). This basically implies that as the age of the women increases the fertility level also increases. According to Thomlinson (1965) as cited in Bhende and Kanitkar (2010), a woman would produce a total of 25 children even if she gave birth every 15 months during her entire reproductive period.

Fertility and age at marriage

The Age at Marriage has negative coefficient of 0.093 which is further consolidated by strong negative correlation which is statistically significant even at 99% of confidence level.

Mohapatra and Roy (2010), also had negative coefficent of 0.068 with a standard error of 0.025 in his study of work and fertility (measured in number of live birth) linkage in women in Bhubaneswar city. According to Bhende and Kanitkar (2010), age at marriage plays an important roles in determining fertility levels and differentials. They argued that lower level of fertility in Europe prior to the Industrial Revolution was due to higher age at marriage. Davis (1956) as cited in Bhende and Kanitkar (2010) also argued that postponement of marriage was one of the ways in which Japan attempted to reduce fertility rates. According to Yurtseven (2015), the age at marriage did not have statistical significane in his study of socio-economic determinants of fertility in muslim countries but had a negative coefficient.

Fertility and factor of availability of baby sitter

The factor of availability of BS also has negative coefficient of 0.133 with a standard error of 0.055. There is a strong positive correlation between Fertility and AR while a strong negative correlation between Fertility and AM and Fertility and factor of availability of BS (see Table 10). These variables are also statistically significant in determining the fertility in this econometric model. Although there is strong negative correlation between Fertility and EL, the variable of EL is not statistically significant in determining the Fertility. Similarly, the interaction variable which is those who do not use contraception and are young also showed strong negative correlation with the Fertility but did not have predicting power of Fertility which is statistically significant.

Table 10. Pearson's bivariate correlations between the variables

	AR	DB	EL	MI	Ucont	NCont* Young	Ncont	DS	WH	BS	AM
NC	0.41**	0.10	-0.25**	-0.01	-0.04	-0.23**	0.04	0.16	-0.06	-0.23**	-0.36**
AM	0.00	-0.10	0.27**	0.09	-0.16	0.11	0.16	0.02	0.12	-0.05	
BS	-0.05	0.17	0.06	0.13	0.18*	-0.10	-0.18*	0.04	-0.09		
WH	0.20*	-0.09	0.08	0.11	-0.10	0.03	0.10	0.12			
DS	0.12	0.02	-0.10	0.01	-0.24**	0.09	0.24**				
Ncont	-0.06	0.02	-0.03	-0.09	-1.00**	0.63**					
Ncont* Young	-0.42**	-0.08	0.04	-0.14	-0.63**						

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Conclusion and recommendations

A total of 150 people were surveyed in which 68% comprised of female and the rest 32% male. The mean age of the respondents is found to be 34 years while the mean age at marriage is 25 years. Majority of the respondents have undergraduate qualification with 46%. In general, 72% of the sample agreed to the statement that they cannot go for more than two children because they cannot find baby sitter while 14% disagreed to the statement and another 14% neither agreed nor disagreed. The highest percentage to the strongly agree was from those who had Masters or PhD category. By the category of sex, female had higher percentage with 72.5% in strongly agree category while the rest male with a percentage of only 27.5%. Majority of the respondent reported that their ideal number of children is two and 37% of the respondents said that it is their ideal number because beyond that they cannot find baby sitter. The use of the condom was the most popular method of contraception in the sample with a percentage of 63%.

The linear multiple regression used to develop the model showed that only Age of the Respondent, Age at Marriage and factor of availability of Baby Sitter were found to have statistically significance in determining the fertility. The test of collinearity indicated that there is no existence of multicollinearity in all the explanatory variables. Among those significant variables, only Age of the Respondent had positive associations with fertility while Age at Marriage and factor of availability of Baby Sitter had negative associations with fertility. The Bivariate Correlations also showed strong correlations between fertility and the significant variables while there were also other variables that showed significant strong correlation but not statistically significant in determining the fertility.

Although the finding shows that the factor of availability of Baby Sitter has effect on fertility, for policy decisions, in-depth study by developing the frame and the carrying out probability sampling is required. When probability sampling is used, one can compute inferential statistics which can be applied to draw conclusions about the population. Since this study is carried

for the first time, there is immense scope for future researchers to carry out comprehensive study with alternative research methods. Just by looking at the sample, if the number of children has to be increased, early marriage and policies where baby sitter is available has to be developed. While if fertility is to be reduced, postponement of marriage and stringent policies on easy availability of baby sitter is encouraged.

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