

Review Form 1.7

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_108727
Title of the Manuscript:	Power Chris-Jerry Distribution: Properties and Parameter Estimation Methods
Type of the Article	Original Research Article

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</p>	<p>Although analysis and computational part of article has less potential in modern era of statistics, this article is scientific based on pure statistics may be supportive to scientific community.</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Satisfactory</p>	
<p>Optional/General comments</p>	<p>Following are some major comments regarding the article.</p> <p>1) you have mentioned mathematical characteristics. Better to replace by statistical properties</p> <p>2) $F(x, \alpha, \theta) = 1 - \left(1 + \frac{\theta x^\alpha (\theta x^\alpha + 2)}{\theta + 2}\right) e^{-\theta x^\alpha}; x > 0, \alpha > 0, \theta > 0$. Is it not defined on X= 0?</p> <p>3) All shapes of pdf curves not show , model is unimodal. although you have mentioned it.</p> <p>4) ALL pdfs MUST be zero at the end points of their supports. If there is still some mass/probability beyond the end points, that is not a pdf. That is 'a' necessary condition. How come this condition is sufficient for a pdf to be uni-modal? One can produce infinite number of pdfs that are multi-modals while they are and must be zero at the end points.</p> <p>(i) See the attached paper where there is a bi-modal normal distribution. (Theorem 3.1), which contradicts your claim.</p> <p>(ii) One more example I constructed to contradict your claim. See below.</p> $f(x) = \begin{cases} \frac{x}{3} & 0 \leq x \leq 1 \\ \frac{-x+2}{3} & 1 < x \leq 2 \\ \frac{x-2}{3} & 2 < x \leq 3 \\ \frac{-x+4}{3} & 3 < x \leq 4 \\ 0, & elsewhere \end{cases}$	

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	<p>(1) This is a genuine pdf because, $\int_0^4 f(x)dx = 1$. (check)</p> <p>(2) $f(0) = 0 = f(4)$.</p> <p>(3) Graph the function. $f(1) = 1/3 = f(3)$ and $\max_{0 \leq x \leq 4} f(x) = 1/3$, clearly $x = 1$, and $x = 3$ are two modes.</p> <p>If your pdf is uni-modal, prove it analytically that it is unimodal. Do the following. $f'(mode) = 0$ and $f''(mode) < 0$. Then, the solution of the equation $f'(mode) = 0$ will give you the modal value.</p> <p>After equation (14). You wrote the following, which is true for your probability distribution but it is NOT true in general. You are making a false claim.</p> <p>For an example, consider the continuous uniform distribution pdf, $f(u) = 1/(b-a)$ for $a \leq u \leq b$, and 0 elsewhere. Clearly $f(u)$ as $u \rightarrow a$ or $f(u)$ $u \rightarrow b$ are not zero. Obviously, no discrete pdf does have pdf 0 at the end points.</p> <p>[Asymptotic behavior of the density function can be determined by checking $\lim_{x \rightarrow 0} f(x) = \lim_{x \rightarrow \infty} f(x)$ with the resulting value as 0. That is, if both the limits converge to zero the proposed model satisfies the asymptotic behavior with unique modal value.]</p>	
	<p>5) Derivations of properties in article are not necessary. Better to make supplementary file.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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