

I am grateful to the reviewer for many helpful comments.

Yes, the assumption that a limiting Weibull distribution exists for the lower-bounded variable needs to be explicitly stated. As noted by the reviewer, there are situations where there will not be a limiting Weibull distribution for Y^* even though a lower bound is present. In practice, however, the Weibull distribution is employed in numerous applied publications related to sample minima and the assumption must be made also in such cases that the limiting distribution exists, usually supported empirically if a good Weibull fit is achieved to the sample minima.

The same assumption in applied work is required too when applying the GEV to sample maxima – that is, that a limiting distribution of maxima is assumed to exist. As with minima, this assumption of a limiting distribution of maxima can be shown to not hold in some situations. For example, Kotz and Nadarajah (2000, p. 55) cite Green (1976) as noting that maxima of random variables need not approach some stable limiting distribution. As mentioned by Kotz and Nadarajah (2000), the required assumption of a limiting stable distribution of maxima has not deterred researchers from applying the stable distributions in a multitude of applications.

In short then, the assumed Weibull limit distribution of Y^* would seem to be no more or no less justifiable than the assumption of stable distributions of X^* for sample maxima. Both approaches require distributions to be in the domain of attraction of extreme value distributions. This is the message of the submitted paper as a contribution to applied studies. There is no suggestion that any new extreme value theory is being introduced – it is simply a different approach for consideration for practical application by using existing theory in a somewhat different way.

The argument is that it is just as justifiable to obtain exceedance probabilities by using the Weibull distribution to estimate the probability that Y^* is less than some value as it is to use the GEV to estimate the probability that X^* is greater than some value. In practice the pragmatic justification would be fitting to data – fitting the X^* values to the GEV or fitting Y^* values to the Weibull distribution. This is the basis of the statement that the use of the Weibull distribution to obtain exceedance probabilities via Y^* is no more or less valid than using the GEV to obtain exceedance probabilities via X^* . However, the point of both approaches requiring stable distributions of extremes to exist could be made more clearly in any revision.

With respect to the second bullet point, there is certainly no suggestion that stable distributions of X^* need imply stable distributions of Y^* . But perhaps the converse might sometimes hold also. That is, situations might arise where there is a stable limit distribution of Y^* , but not of X^* .

It is only Y^* that is needed in order to obtain an exceedance probability estimate via the Weibull distribution (provided there is a good data match and provided the assumption of a Weibull stable distribution of minima holds). However, practitioners have an understandable preference to visualise their degree of fit as measured against recorded maxima, rather than transformations of recorded maxima. This was the reason for introducing $Z = g^{-1}(W)$, because the degree of fit of recorded maxima to $f(Z)$ gives an implicit fit to the Weibull distribution also, and the fit to $f(Z)$ can be presented in the same scale as the original data.

With respect to the technical comments:

P2 L8-12 Yes.. the reference to the positive range of the variable is something of a distraction and is not an argument for the paper. It should just be mentioned in passing that the transformation approach yields distributions in the positive domain.

P2 L19. My apologies for being unclear in the text, which should have read: Let $f(x)$ be an unknown probability density function ..

P2 L19-20. Yes - text needs to be added to the effect that the X_i are assumed independent.

P2 L21.

P3 L2

My thanks for the clear definitions. The definitions would be added as indicated, in any revised version of the paper.

P3 L3 Yes .. not all g^{-1} will be applicable. If I may ask your help one further time, perhaps some wording could be suggested to define that only viable g^{-1} should be employed?

Green, R.F. (1976) Partial attraction of maxima *J. Appl. Probab.* 13 159-163.

Kotz, S., and Nadarajah, S.: Extreme value distributions: theory and applications. Imperial College Press, London, 2000.