Gao and Leader made the following conjecture: if $X = (x_i)_{i=1}^n$ is a sequence of length $n$ in a finite abelian group of exponent $n$, then either some subsequence of $X$ sums to zero or the set of all sums of subsequences of $X$ has cardinality at least $2n - 1$. This conjecture turns out to be a simple consequence of a theorem of Olson and White; we investigate generalizations that are not implied by this theorem. In particular, we prove the following result: if $X = (x_i)_{i=1}^n$ is a sequence of length $n$, the terms of which generate a finite abelian group of rank at least 3, then either some subsequence of $X$ sums to zero or the set of all sums of subsequences of $X$ has cardinality at least $4n - 5$. (Received September 13, 2007)