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Michael Plantholt* (mikep@ilstu.edu), Dept. of Mathematics, Illinois State University, Normal, IL 61790-4520. *The chromatic index of sufficiently large graphs with high minimum degree.*

The 1-Factorization Conjecture states that any regular graph of even order n in which the vertex degrees are at least $\frac{n}{2}$ has a factorization of its edges into perfect matchings. Recently, Csaba, Kühn, Lo, Osthus and Treglown verified the 1-Factorization Conjecture for all graphs with sufficiently large n . The chromatic index $\chi'(G)$ of a graph is the minimum number of matchings required to cover its edges, so the result by Csaba et al. shows that when G is regular and satisfies the conditions above, $\chi'(G)$ equals its maximum degree $\Delta(G)$. We use that result to determine the chromatic index for any graph G with sufficiently large even order n that has minimum degree at least $\frac{2n}{3}$. For such graphs, $\chi' = \Delta$ unless there is a dense subgraph called an overfull subgraph. These results are presented in the context of the more general Overfull Conjecture. (Received January 10, 2021)