Zbl 209.28003
Erdős, Paul
On a lemma of Hajnal-Folkman (In English)
Combinat. Theory Appl., Colloquia Math. Soc. János Bolyai 4, 311-316 (1970).

[For the entire collection see Zbl 205.00201.]

The symbol $(m,n,i,r) \to p$ means that if $|\mathcal{S}| = m \geq n$, $A_j \subset \mathcal{S}$, $|A_j| \geq n$ is any family of subsets of $\mathcal{S}$ which cannot be represented by any i elements of $\mathcal{S}$, then there is a subset $\mathcal{S}_1$ of $\mathcal{S}$, $|\mathcal{S}_1| = p$, $p \geq r$, every r-tuple of which occurs in some A_j. $(m,n,i,r) \nrightarrow p$ means that $(m,n,i,r) \to p$ does not hold. $(2n-1,n,1,2) \to n+1$ is an old result of Hajnal and Folkman. The author proves $(2n+i-2,n,i,2) \to n+i$ and that this result is best possible. Several problems are posed, some of which have been settled since. Also a connection with Ramsey's theorem is established.

Classification:
05C55 Generalized Ramsey theory