The profile is $\boldsymbol{v} = (v_1, \ldots, v_n)$, for $n = 2k+1$ and $k \geq 1$.

The probability of a correct decision is:

$$\begin{aligned}
\Pr\Big[S_n > k\Big] &= \Pr\Big[S_n = k{+}1 \text{ or } \ldots \text{ or } S_n = n\Big] \\
&= \binom{n}{k+1} \cdot p^{k+1}(1-p)^{n-(k+1)} + \cdots + \binom{n}{n-1} \cdot p^{n-1}(1-p)^1 + \binom{n}{n} p^n \\
&= \sum_{i=k+1}^{n} \binom{n}{i} \cdot p^i (1-p)^{n-i}.
\end{aligned}$$

And it looks like the same reasoning applies: as n grows, so does group accuracy!

But only as long as $p > 1/2$…