**Abstract**

Paranoia is a positive symptom that is frequently presented in individuals with psychotic disorders. It also exists in a continuum where less severe paranoid thoughts are observed in a significant portion of the general public. Previous studies have preliminarily established the effectiveness of a brief online mindfulness-based intervention (MBI) for reducing the level of paranoia in non-clinical samples. However, only one study had compared online MBI with an active control and none had investigated MBI in non-clinical populations with elevated levels of paranoia. This study examined whether a brief online MBI reduces paranoia in non-clinical individuals with elevated levels of paranoia. The moderating role of cognitive biases was also explored. This study adopted a single-blinded randomised controlled design. A total of 147 participants were randomised into either a 14-days online MBI with ten minutes of daily audio-guided mindfulness practice or an active control condition of listening to ten minutes of classical music for 14 days. Measurements of paranoia and psychological wellbeing were administered at baseline, post-intervention, and 1-month follow-up. Significant reduction in paranoia was found after treatment for both the MBI ($d$ = 0.43 $p$= .003) and the control groups ($d$ = 0.29, $p$= .015). Between-group comparison in paranoia change was non-significant ($p$= .374); however, only the effect of MBI sustained at follow-up ($d$= 0.41, $p$= .002). The MBI group also demonstrated greater improvement in well-being measurements. Jumping to conclusions (JTC) bias was found to moderate paranoia change in the MBI group but not the control group. More JTC bias predicted increased reduction in paranoia. This study provided evidence for the effectiveness of MBI for reducing paranoia in non-clinical populations with elevated paranoia, with baseline jumping-to-conclusion bias as a moderating factor. Comparison with control group was non-significant but differences in effect-size and the durability of effect was observed. Limitations of the study were discussed.