This study investigated contributory factors to anomalous perceptual experience and the role of such experience in delusion formation. This was facilitated by development of the Cardiff Anomalous Perceptions Scale (CAPS), a valid, reliable self-report measure designed to use neutral language, have high content validity and include provision for differing levels of insight. The CAPS was completed by a general population sample of 336 participants and 68 psychotic inpatients. A principal components analysis of the general population data revealed three components: 'clinical psychosis', 'temporal lobe disturbance' and 'chemosensation', suggesting multiple contributory factors. A follow-up study using transcranial magnetic stimulation provided additional validity for the 'temporal lobe disturbance' component. No significant difference was found between general population participants and deluded inpatients without hallucinations. Finally, distress was found to be significantly greater when levels of anomalous perceptual experience were higher than levels of delusional ideation. We conclude from these results that anomalous perceptual experience, as measured by the CAPS, is not necessary for the presence of delusions, and that similar levels of delusional ideation and anomalous perceptions may be protective against distress.