The importance of social cue utilisation in the performance of transient teams

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1. Introduction
Transient teams typically form at short notice for a limited duration, and team members are required to integrate and interact with each other in order to adapt quickly to the demands of a situation (Tannenbaum, Mathieu, Salas, & Cohen, 2012). Transient teams are commonly used in high-reliability settings such as aviation and medical surgery, where the costs of errors are high and situational demands are dynamic and constantly changing (Baker, Day, & Salas, 2006). Although meta-analytic evidence suggests that moderately positive relationships exist between communication processes and team performance outcomes (Salas et al., 2008), the specific skills that facilitate communication in transient teams are largely unspecified, leading to some ambiguity as to what constitutes effective communication in these environments.

One of the key requirements associated with effective communication in transient teams is the capacity to identify and establish appropriate opportunities for communication. This capacity is likely to involve the utilisation of non-verbal cues that signal an opportunity for communication. Cues represent associations between features and objects or events that are retained in memory, and are thought to reduce the cognitive demands placed on individuals when formulating decisions and responding to environmental stimuli (Ericsson & Kintsch, 1995; Wiggins, 2014). Individuals differ in the extent to which they are able to attend to and interpret non-verbal cues in a social context (e.g., facial cues, non-verbal gestures) (Pickett, Gardner, & Knowles, 2005). In the context of transient teams, the utilisation of these social cues may be critical in work environments characterised by strict time limits and high pressure to perform, and where prompt and informative communication between team members is essential. The aim of the present research was to test whether, in the context of transient teams, social cue utilisation is associated with team performance.

2. Method
Students from Macquarie University completed the Expert Intensive Skills Evaluation program (EXPERTise 1.0; Wiggins, Harris, Loveday, & O’Hare, 2010), used to assess participants’ level of social cue utilisation. EXPERTise measures the capacity to recognise naturalistic visual cues and patterns, as well as the ability to distinguish important from less-important features within the environment. The Tower of Hanoi was used to assess team performance. The study was conducted in two phases. In the first phase, EXPERTise data were collected and participants were assigned to either the relatively lower cue utilisation group, or the relatively higher cue utilisation group based on a k-means cluster analysis of participants’ scores on all five EXPERTise tasks, with k = 2 groups. In the second phase, participants were allocated to either lower or higher cue utilisation pairs, based on their level of social cue utilisation. Teams were given ten minutes to complete the Tower of Hanoi.

3. Results
Those participants who displayed consistently superior performance on four of the five EXPERTise tasks were considered to possess a relatively greater level of cue utilisation, while those participants who displayed a consistently lower level of performance across the tasks were considered to possess a relatively lower level of cue utilisation. A total of 40 participants returned for the second phase of the study and were divided into 20 pairs, consisting of team members within the same level of social cue utilisation (higher or lower). An one-way ANOVA, incorporating two levels of team cue utilisation as a between-groups variable revealed a statistically significant main effect, $F(1, 28) = 11.09, p = .002, \eta_p^2 = .28$, where pairs with relatively lower levels of cue utilisation ($M = 408.93$ seconds, $SD = 151.85$ seconds) required a considerably
The results indicated that transient teams composed of individuals with higher or lower levels of social cue utilisation differed in their capacity to solve a general problem-solving task. This suggests that the capacity of transient teams to identify and utilise social cues to communicate and coordinate with one another may play an important role in determining their effectiveness. What remains unclear is the extent to which the quality of communication mediates this relationship, and whether there are underlying variables such as cognitive ability and industry experience that act as third variables, and that might explain problem-solving capacity.

References