

Interprofessional Escape Room: Evaluating Teamwork among Healthcare Profession Students

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Introduction

The goal of interprofessional practice and education (IPE) is to improve collaboration amongst professionals and the overall outcomes of healthcare. For IPE to generate tangible change, these behaviors must be measured objectively. Literature is lacking in terms of observational scoring of interprofessional teamwork behaviors in various settings. A non-clinical setting like an escape room requires teamwork and communication. Our study aims to objectively evaluate these behaviors in an escape room setting and comparing the teamwork scores to escape room time.

Research Question

Does the time it takes interprofessional student teams to “escape the room” decrease as observed teamwork scores (scored via JTOG and overall impression score of teamwork at 7 minutes) increase?

Materials and Methods

In this cohort study, interprofessional student teams of MD, PA, PT, and OT students participated in an escape room at the simulation center at the Phoenix Biomedical Campus. There were 42 total teams with 5-6 students per team. Each team had consistent escape room puzzles with 30 minutes to “escape the room.” Teams were later evaluated from video recordings using a modified version of the Jefferson Teamwork Observation Guide (JTOG), which assesses team functioning with items that represent specific IPE competency (IPEC) themes of roles and responsibilities, values and ethics, leadership, and communication. Overall impression score of team performance was recorded at 7.0 minutes into the escape room. Escape room time was recorded at the end of each video. IRB approval was obtained for this study.

Results

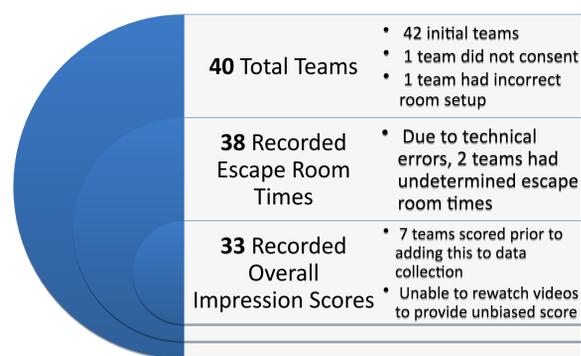


Figure 1: The amount of data collected for the primary outcomes and reasons for varying amounts of data for each outcome.

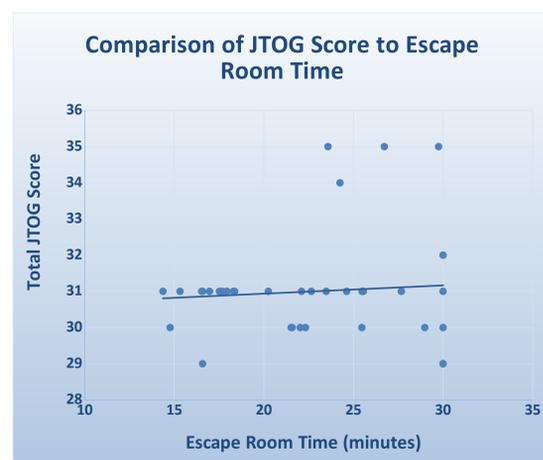


Figure 2: Total JTOG scores compared to escape room times. Correlation coefficient = 0.084. Very weak correlation of JTOG scores to escape room time as evidenced by trendline with a negligible slope.



Figure 3: Mean overall impression scores, ranging from 1. Poor team, 2. Average, and 3. Good team for teams that escaped in the following time groups: 0-20 minutes, 20-28 minutes, and 28-30 minutes.

	Time 0 – 20 min. (n=13)	Time 20 – 28 min (n=16)	Time 28 – 30 min (n=9)	Beta (95% CI)	p-value
IPEC Theme: Values and Ethics	10.8 (0.81)	10.8 (0.84)	10.0 (1.45)	0.64 (-1.26, 2.54)	0.49
IPEC Theme: Communication	8.84 (0.37)	8.67 (0.47)	8.22 (0.94)	-2.55 (-5.33, 0.23)	0.07
IPEC Theme: Teamwork	5.92 (0.27)	5.94 (0.23)	6.00 (0)	15.2 (6.61, 23.7)	0.001
IPEC Theme: Leadership	2.23 (0.81)	2.67 (1.51)	3.44 (1.68)	1.07 (0.11, 2.04)	0.031
Overall Impression Score at 7 minutes	2.55 (0.68)	2.32 (0.54)	1.57 (0.51)	-4.78 (-7.01, -2.55)	<0.0001
Number of People with Previous 'Escape Room' Experience	2.53 (1.47)	1.87 (1.23)	2.44 (1.38)	-0.59 (-1.72, 0.52)	0.28

Table 1: Escape room time compared to IPEC themes, overall impression score, and number people with previous escape room experience via multivariable linear regression.

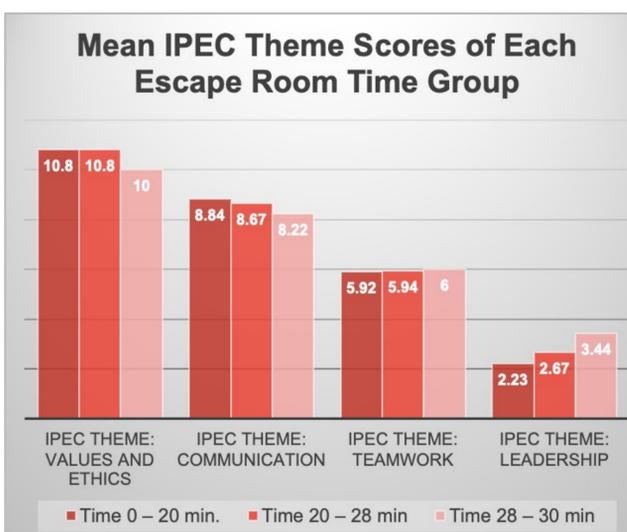


Figure 4: Mean IPEC theme scores within the JTOG for different escape room time groups; teams that escaped in 0-20 minutes, 20-28 minutes, and 28-30 minutes.

Conclusion

As the first of its kind, our study correlated teamwork behaviors and corresponding IPEC themes in a non-clinical setting to an objective measure: escape room time. There was a negligible correlation between total JTOG scores and escape room time. However, teams with higher overall impression scores tended to escape the room the fastest (1 point increased in score decreased average time by 4.78 minutes). For individual IPEC themes, teams with higher IPEC scores of teamwork and leadership took longer to escape the room (15.2 minutes longer for every 1 point increase on teamwork; 1.07 minutes longer for 1 point increase in leadership). Teams with higher communication scores also tended to escape the room faster. Results were not affected by number of team members with prior escape room experience.

Summary

No correlation between overall JTOG scores and escape room time.

Teams that had fastest escape room times had greater overall impression scores and greater communication scores.

Greater team functioning and communication within interprofessional teams may translate to teams being more efficient, faster at problem-solving, and quicker moving through tasks in a clinical setting.

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