Baby Town: A Role-Playing Board Game and Curriculum to Highlight the Challenges of Teenage Parenthood in a Destigmatizing Manner

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BACKGROUND

Strategies to reduce teenage pregnancy and parenthood may lead to stigma and negative social evaluations of teenaged parents, exacerbating health and social challenges.[1,2] Serious games show promise for helping young people understand complex systems and explore nuanced, sensitive issues.[3-5] This study considers whether a game can reduce teenage pregnancy and parenting stigma among non-pregnant or parenting youth while supporting the importance of family planning.

PURPOSE

Baby Town is role-playing, theory-based board game co-designed with young people to promote learning about the daily challenges of teenage parenthood using a non-stigmatizing approach.

METHODS

Game Design and Description: *Baby Town* is a role-playing board game co-designed by young people, game designers, and researchers during a six-week summer program.[6] In *Baby Town,* players go to school, work, and other community sites to build friendships, maintain their grade point average, and earn money in pursuit of future goals. If players become parents in the game, the challenge increases as they must also meet their baby's needs. However, they can also gain points by completing goals beneficial to the baby. *Baby Town* incorporates narrative empathy and Social Cognitive Theory to illustrate the impact of teenage parenthood on a young person's daily life and long-term goals. The *Baby Town* intervention included two hours of game play and three hours of interactive learning activities in a teacher-developed curriculum.

Study Design and Analysis: *Baby Town* plus curriculum were evaluated using pre- and post-testing with four-month follow-up. The feasibility, usability, and acceptability of the game were assessed using 5-point Likert-type items. Additional outcomes included: perceptions of the importance of family planning education for teens, attitudes towards teenage mothers, measured via the two-factor 5-point Likert-style *Positivity Towards Teen Mothers Scale*, and attitudes towards teenage parents via a semantic scale, in which participants place teenage parents on a 7-point scale between a negative and a positive adjective pair.[7] We used parametric and non-parametric paired tests as appropriate for analysis.

RESULTS

Forty-three young people (median age 15) from the Chicago area participated in the program; sessions were led by teachers. Fifty-one percent of participants was female, with all participants identifying as cisgender. Participants were predominantly Black and/or Latinx.

Table 1. Mean Feasibility, Usability, and Acceptability Scores for Youth who Played *Baby Town*, 2019 (n=43)

Item	Mean
I found it hard to figure out how to play the game	2.07
Baby Town is a good way to learn about being a teen parent	4.60
I was able to imagine I was a teen parent while playing *Baby Town*.	4.07
I would like my school to use this game in our classroom	4.43
I liked completing goals in this game	4.56
I would recommend this game to other young people to play	4.37

RESULTS (cont)

Findings suggest **high usability**, with a score of 72.7/100 on the System Usability Scale, which indicates good usability.[8] For feasibility and acceptability (see Table 1), when asked to disagree or agree with statements about the game along a 5-point Likert scale, the majority of youth (88.4%) did not find the game hard to play. Additionally, the majority (95.3%) of youth liked completing goals in the game and reported that *Baby Town* is a good way to learn about the challenges associated with being a teenage parent. Ninety-three percent would like to use the game in the classroom, and 86.0% would recommend the game to other young people to play. **Most youth (90.7%) rated the game as "very good" or "excellent."**

RESULTS (cont.)

We found an **increased association of teenage parents with positive adjectives about their parenting capabilities** from pre-test (mean 4.81/7) to post-test (5.12/7), p<.0001; however, **this change was not sustained at follow-up** (mean 4.71/7, p<.47 compared to pre-test; see Table 2). Post-test scores also reflected **a trend toward reduced negative judgements of teenage mothers** (pre-test mean=2.09, post-test mean=2.02; p<.064), which was not sustained at follow-up (mean=2.05, p<.43 compared to pre-test). Pre-, post-, and follow-up test scores indicate **high perceived importance of family planning for teenagers at all time points** (pretest mean score=9.0/10, post-test mean score = 9.4/10; follow-up mean score 8.7/10) (Table 1).

- *Baby Town* was rated as highly usable, feasible, and acceptable among youth
- Participant evaluations of teenage parents became slightly more positive after gameplay, but this change was not sustained at four months

Table 2. Mean Attitudes Towards Teenage Parents and Family Planning Before and After Playing *Baby Town*, 2019 (n=43)

Measure	Pre-Test Score	Post-Test Score	Follow-Up Score
Positivity Towards Teen Mothers - judgmental attitudes subscale	2.09	2.01	2.05
Positivity Towards Teen Mothers - supportive attitudes subscale	3.31	3.35	3.33
Teen parenting semantic scale	4.81	5.12*	4.71
Importance of learning about family planning for teenagers	9.05	9.4	8.72

*p<.0001 compared to pre-test

LIMITATIONS

- The small sample size limited power to detect changes in attitudes towards pregnant and parenting teens, as well as generalizability outside the study population.
- There was no control group in this study, so we cannot gauge youth attitude changes relative to no intervention or a different intervention

CONCLUSIONS

A theory-based role-playing board game co-designed by young people is a feasible method to promote learning about teenage pregnancy and the challenges of teenage parenthood in a non-stigmatizing manner that still supports the importance of family planning education. More research is needed to understand how the intervention could be improved and/or its messages reinforced to lead to lasting improvements in youth attitudes about pregnant and parenting teens.

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