

# Using simulator dolls to enhance understanding of teratogenic affects on antenatal development

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## Introduction

A teratogen is an outside agent or condition that can affect antenatal development (Berger, 2017) and these include alcohol and drugs.

Roozen et al. (2016) report that around 2% of babies worldwide are probably affected by antenatal exposure to alcohol.

Gyarmathy et al. (2009, as cited in Irner, 2012) report that in Europe around 30,000 babies are born each year to mothers who used opiates during pregnancy.

Health literacy is however not effective in decreasing these risky behaviours (Dermota et al., 2013), therefore it is important to find more effective ways to educate and increase understanding of the effects of antenatal exposure to alcohol and drugs.

## Aim

The aim of the study was to assess the use of Foetal Alcohol and Drug Affected Simulator dolls as a new education technology tool to enhance understanding of teratogenic effects.



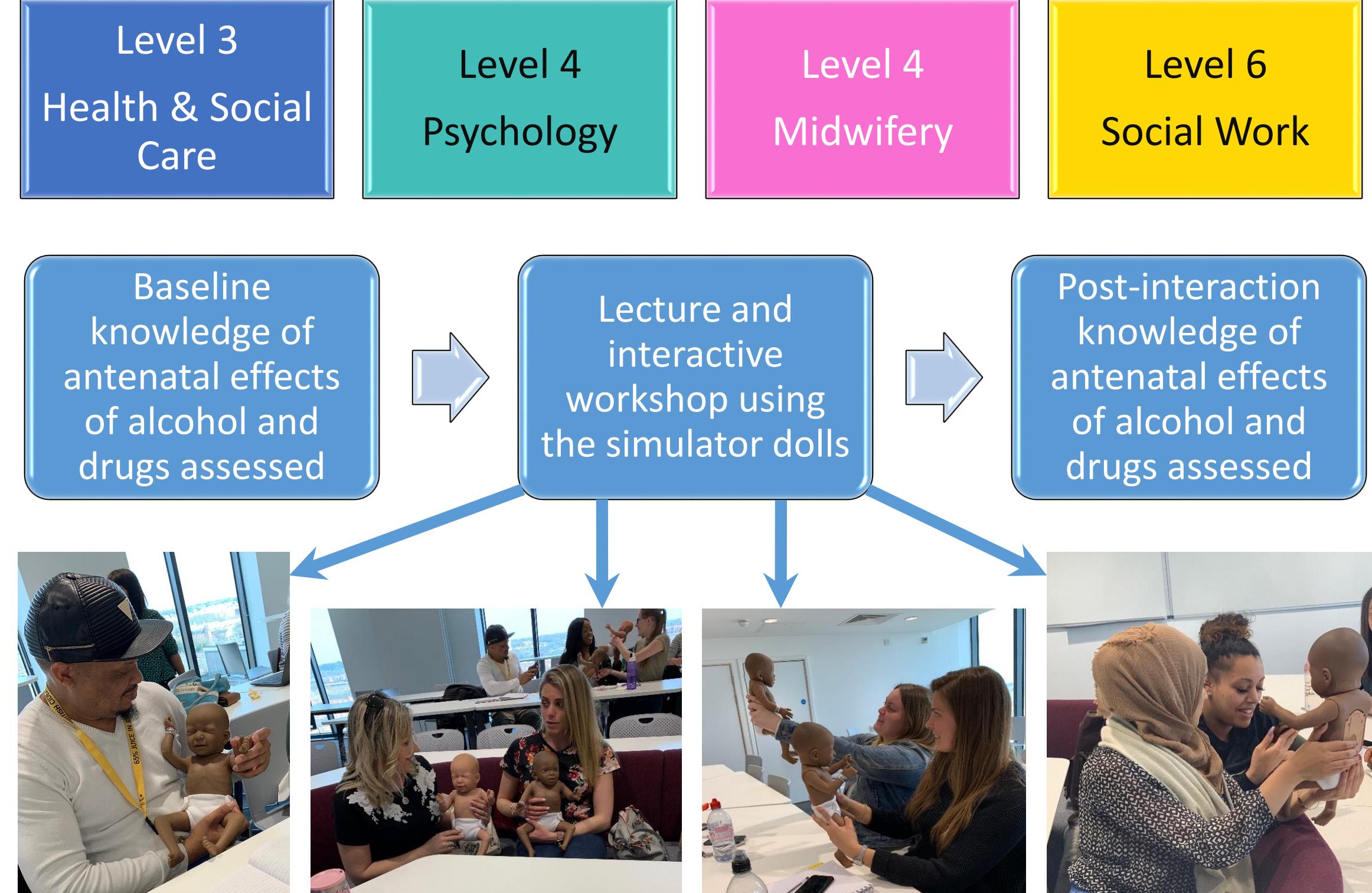
Such simulators allow 'practice without risk' (Gordon et al., 2001).



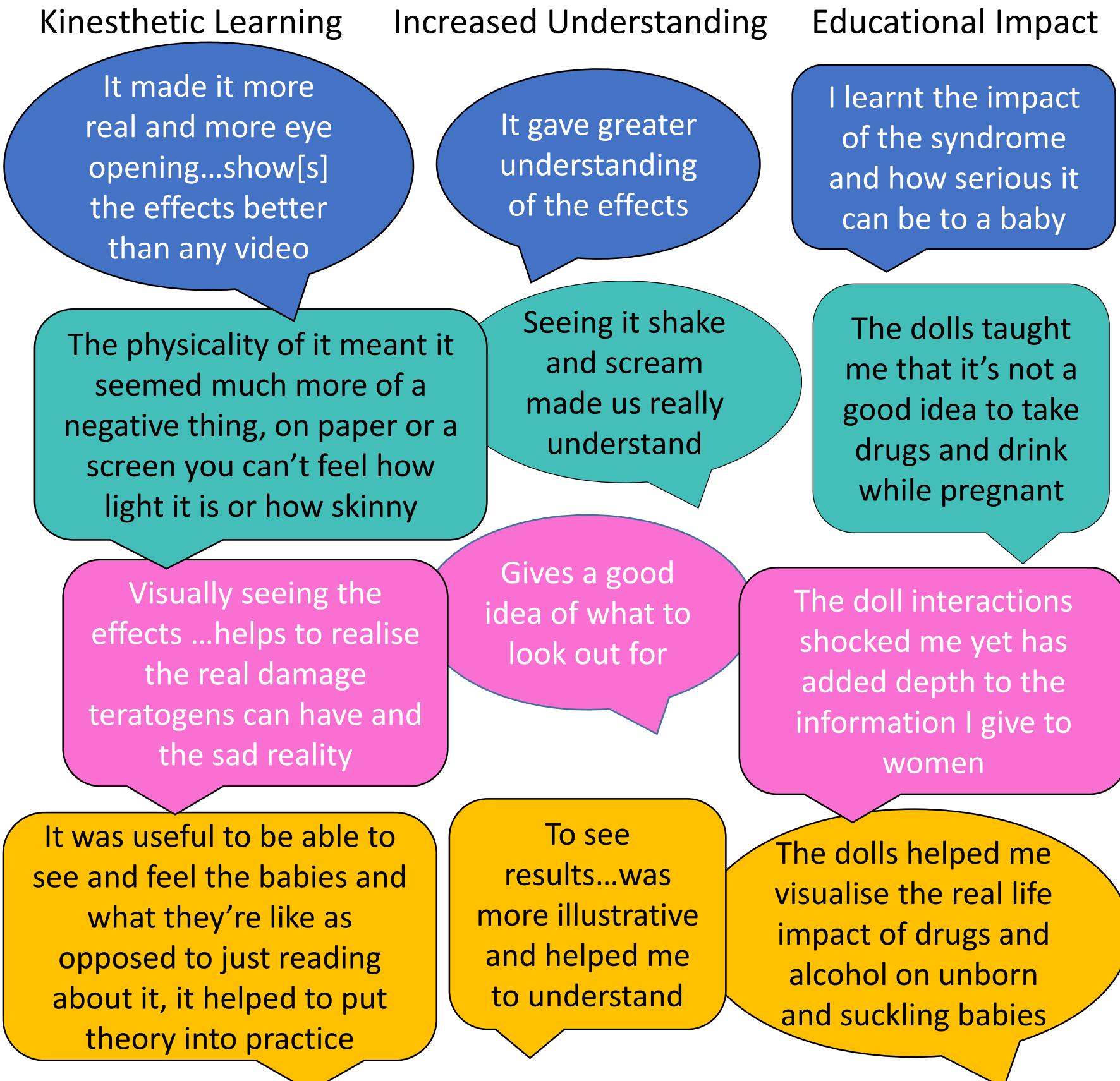
The study built upon previous research by Drs Hussain and Pourzanjani by assessing students across disciplines and year groups.

## Method

### Comparative study: Students from four disciplines

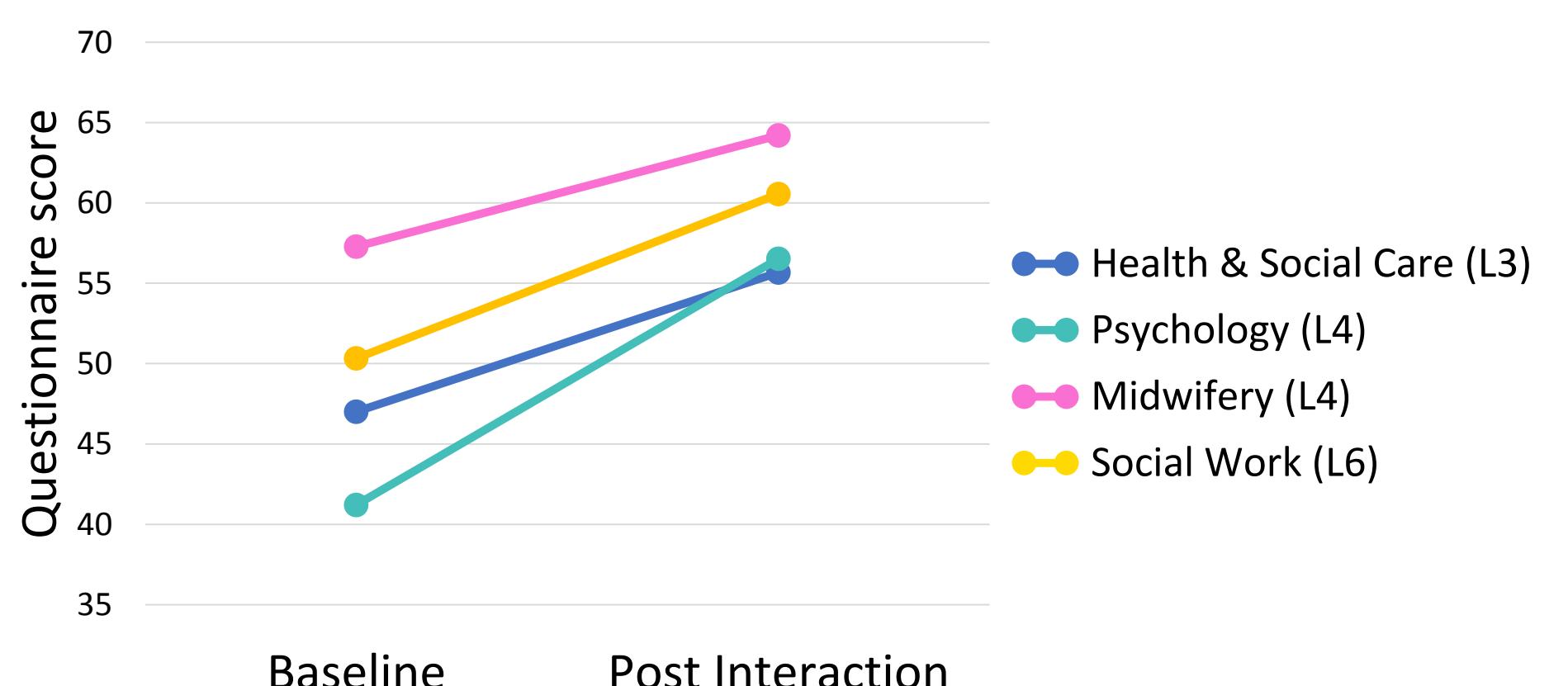


## Qualitative Results



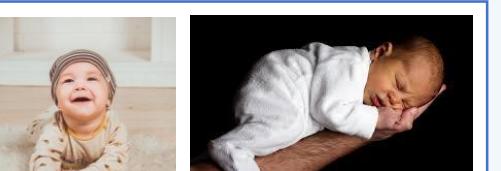
## Quantitative Results

ANOVA analysis assessed the difference between the baseline and post-interaction questionnaire scores across the four disciplines and showed knowledge increased after the workshop for all groups; that the midwifery students' knowledge was greater overall than the Psychology and Health & Social Care students; and that the Psychology students showed the greatest significant increase in knowledge post interaction with the dolls.



## Conclusions

The students from the four disciplines all commented on the benefits of physically interacting with the simulator dolls to aid their understanding of teratogenic effects and that the dolls had clear educational impact for themselves and others. Therefore, the addition of these simulators to enhance understanding of risk-related behaviours would be a valuable addition to health promotion programmes. Further research will consider the implications of using the dolls in clinical and social work practice.



## References

- Berger, K.S. (2017). *The developing person through the lifespan* (10<sup>th</sup> ed.). New York, NY: Worth.  
Dermota, P., Wang, J., Dey, M., Gmel, G., Studer J., & Mohler-Kuo, M. (2013). Health literacy and substance use in young Swiss men. *International Journal of Public Health*, 58(6), 939-948.  
Gordon, J.A., Wilkerson, W.M., Shaffer, D.W., & Armstrong, E.G. (2001). "Practicing" medicine without risk: students' and educators' response to high-fidelity patient simulation. *Academic Medicine*, 76, 469-72.  
Irner, T.B. (2012). Substance exposure in utero and developmental consequences in adolescence: A systematic review. *Child Neuropsychology*, 18(6), 521-549.  
Roozen, S., Peters, G.J.Y., Kok, G., Townend, D., Nijhuis, J., & Curfs, L. (2016). Worldwide prevalence of fetal alcohol spectrum disorders. *Alcoholism: Clinical and Experimental Research*, 40(1), 18-32.