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## The Effects of Oral Contraceptives on the Mental Health of Active Females

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# THE EFFECTS OF ORAL CONTRACEPTIVES ON THE MENTAL HEALTH OF FEMALE ATHLETES

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## Background

The use of oral contraceptives (OC) to regulate athletic performance has increased in recent years. Literature indicates as OC usage increases, feelings of well-being among those using OCs have decreased.<sup>1-2</sup> Therefore, the purpose of this study was to determine the effect of OCs on the mental health of active females. I hypothesized that OC-users would report lower values related to well-being and higher values related to depressive symptoms compared to those using other forms of hormonal contraceptive (HC) and no contraceptive.

## Participants & Methods

Participants included 74 biological females, over the age of 18, that engaged in 150 minutes of exercise per week. Participants were gathered through convenience and snowball sampling and answered questions from the Beck's Depression Inventory via a Qualtrics survey. SPSS was used to analyze the survey data (descriptive analysis and one-way ANOVA).

## Results

Differences were found in mental health responses between HC users and non-users. The OC group reported feelings of being disappointed in themselves more frequently than other groups (Figure 1). However, HC users answered this question similarly. The HC group reported more irritation ( $F(2,71)=3.521, p=.035$ ), feeling unattractive ( $F(2,71)=4.065, p=.021$ ), diminished sleep ( $F(2,71)=6.525, p=.003$ ), decreased appetite ( $F(2,71)=3.691, p=.030$ ), and more worried about physical health ( $F(2,71)=2.726, p=.072$ ) than other groups. Figure 6 displays the most unique results, showing nearly 100% of HC users worry about their physical health, while no one in the other two groups report feeling this way.

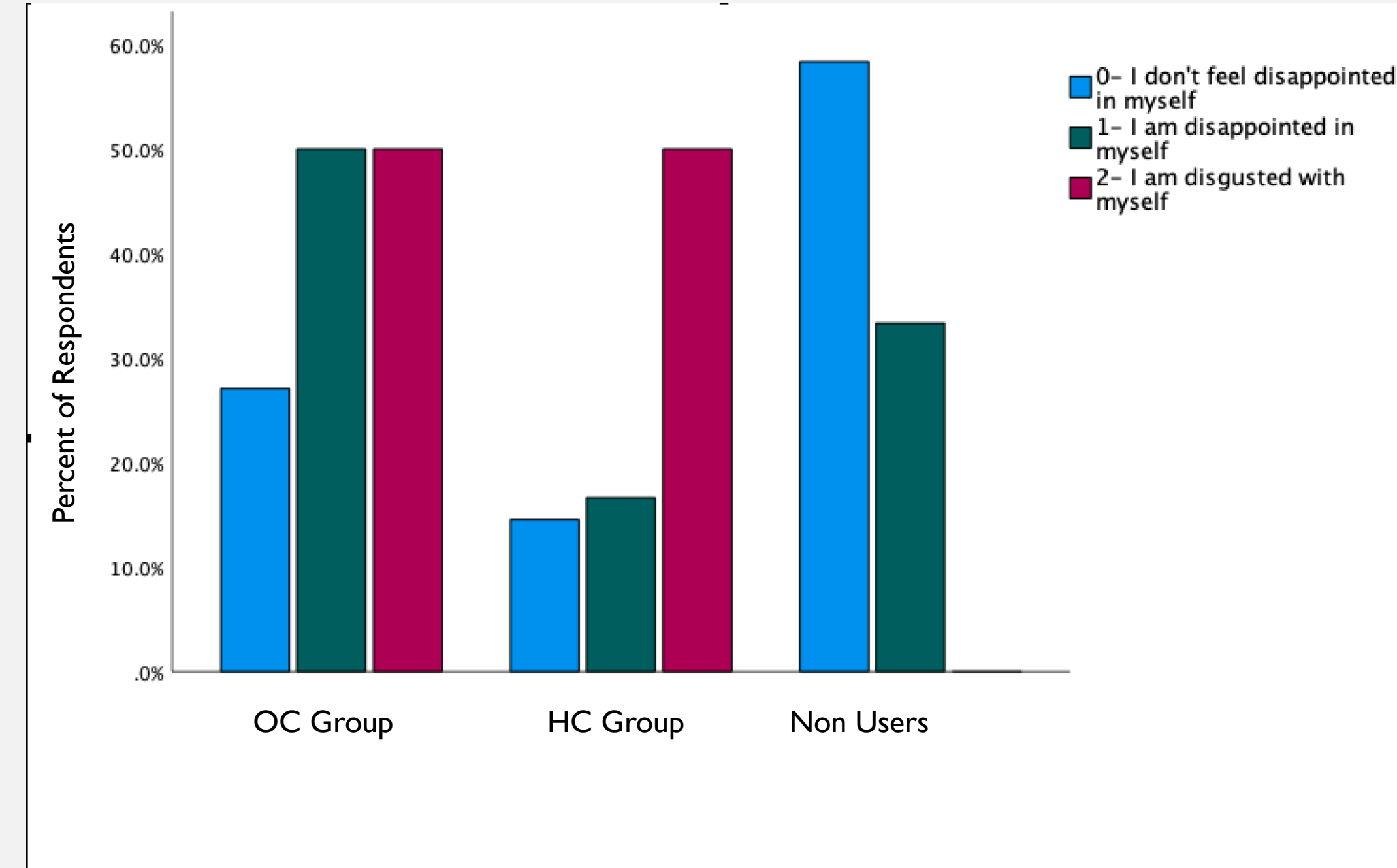


Figure 1: Feelings of self-disappointment

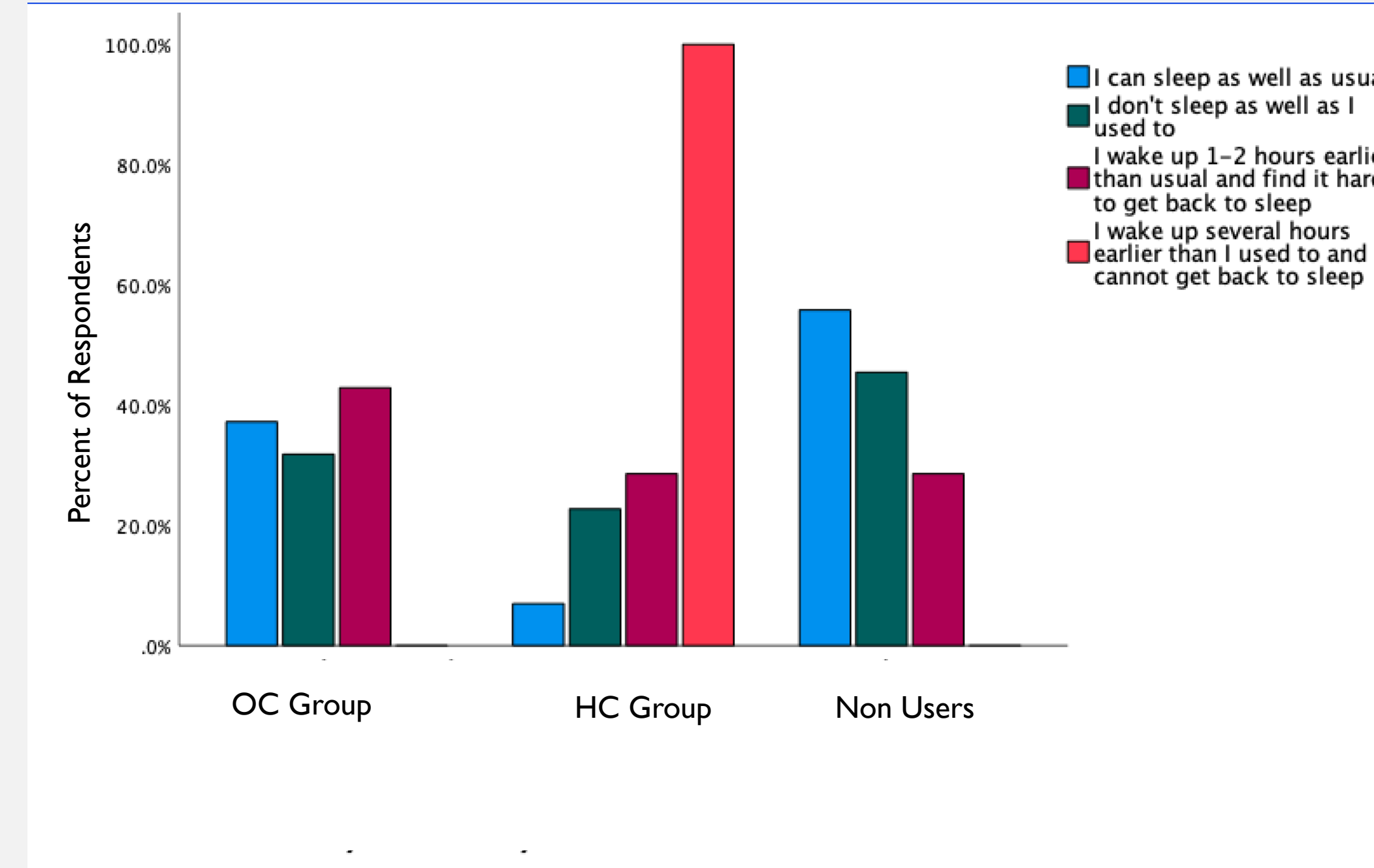


Figure 4: Diminished sleep

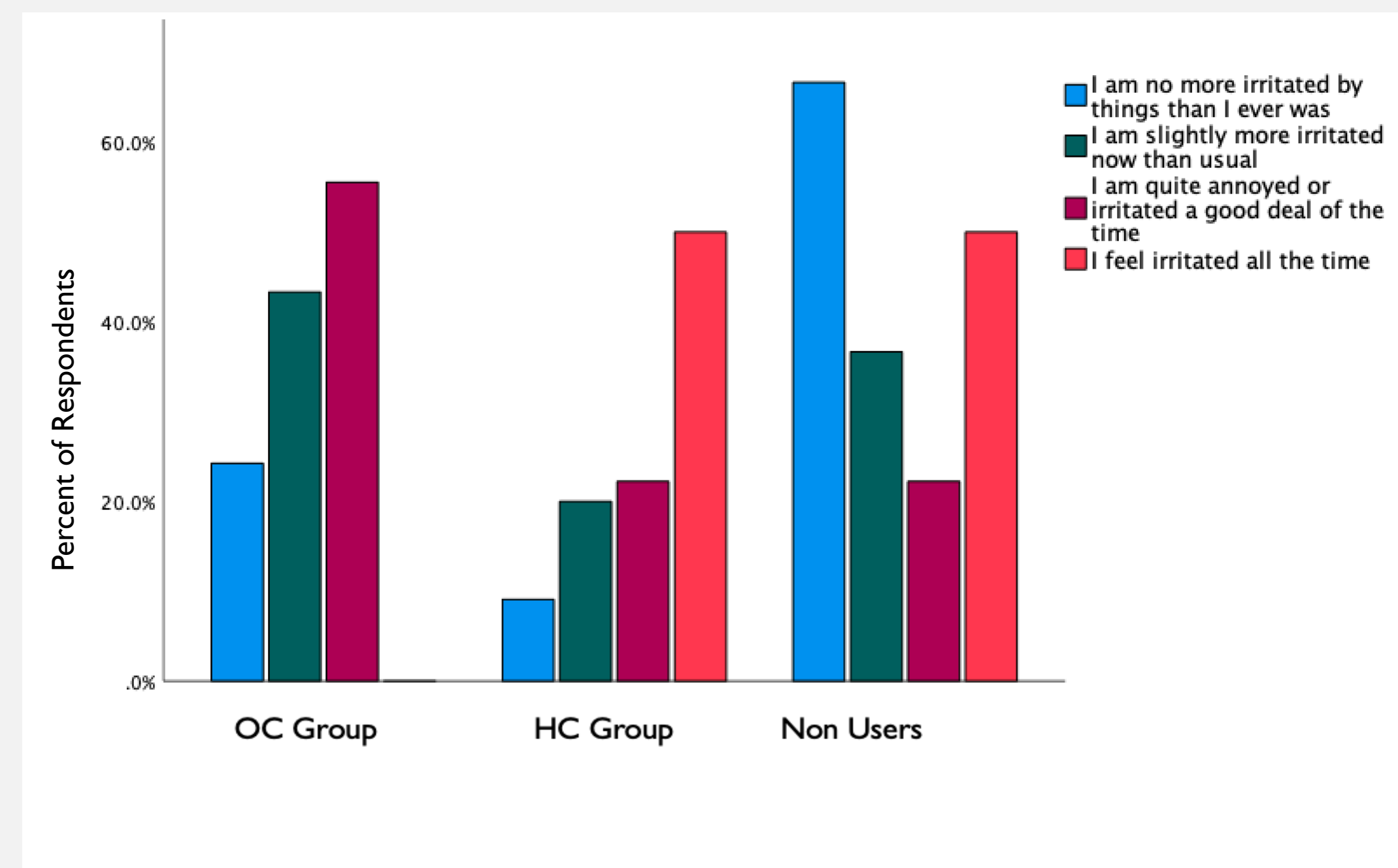


Figure 2: Feelings of irritation

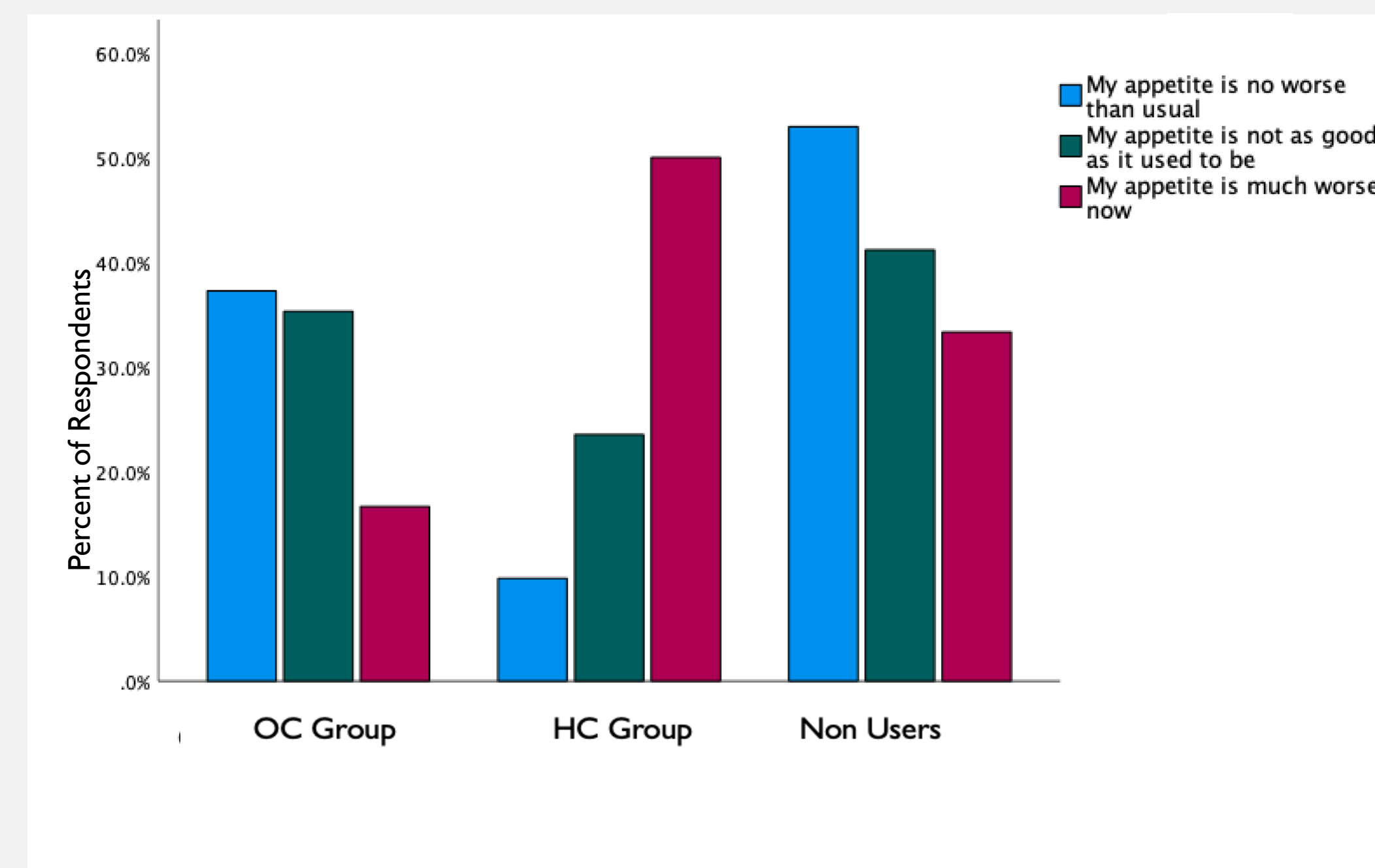


Figure 5: Decrease in appetite

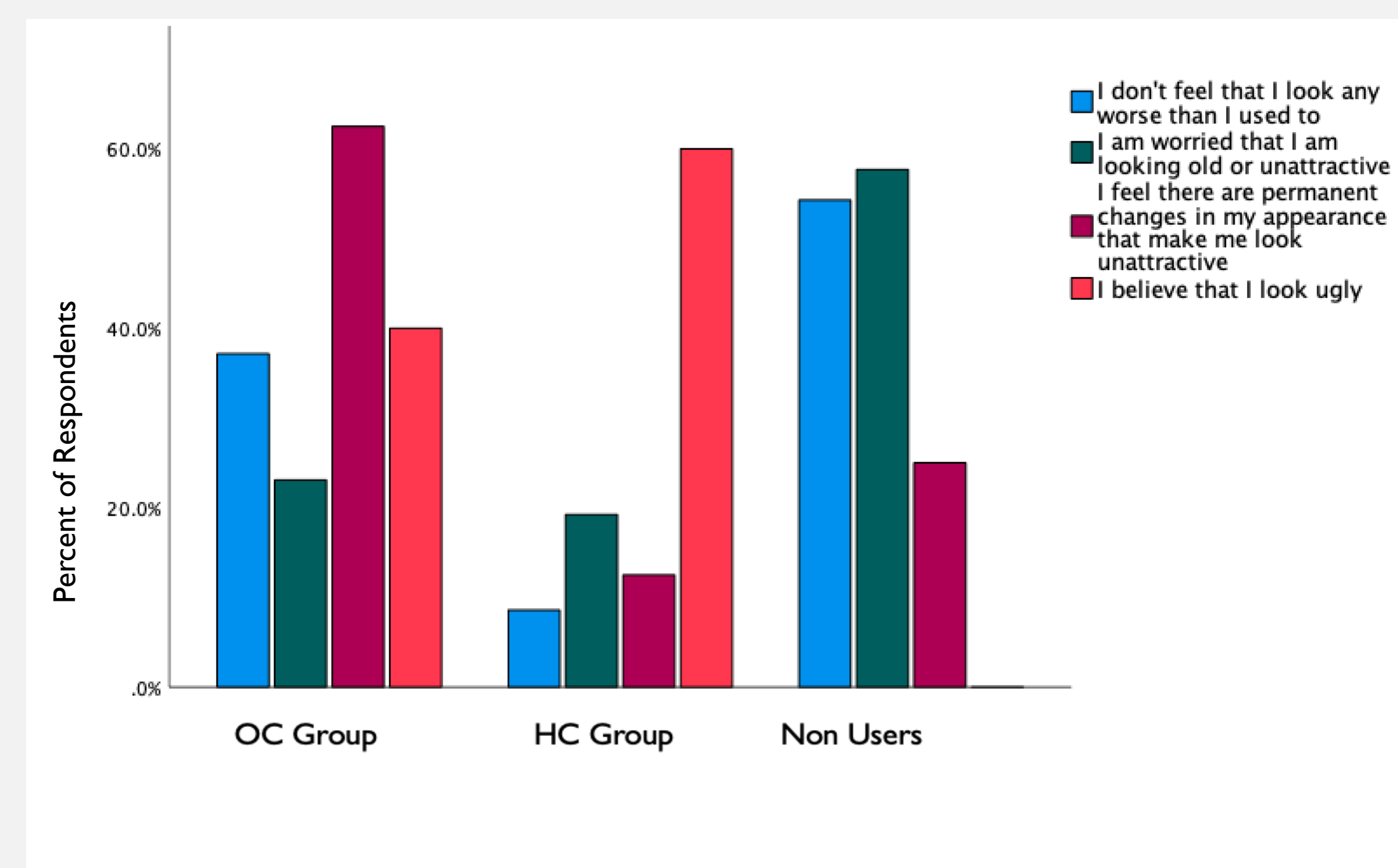


Figure 3: Feeling unattractive

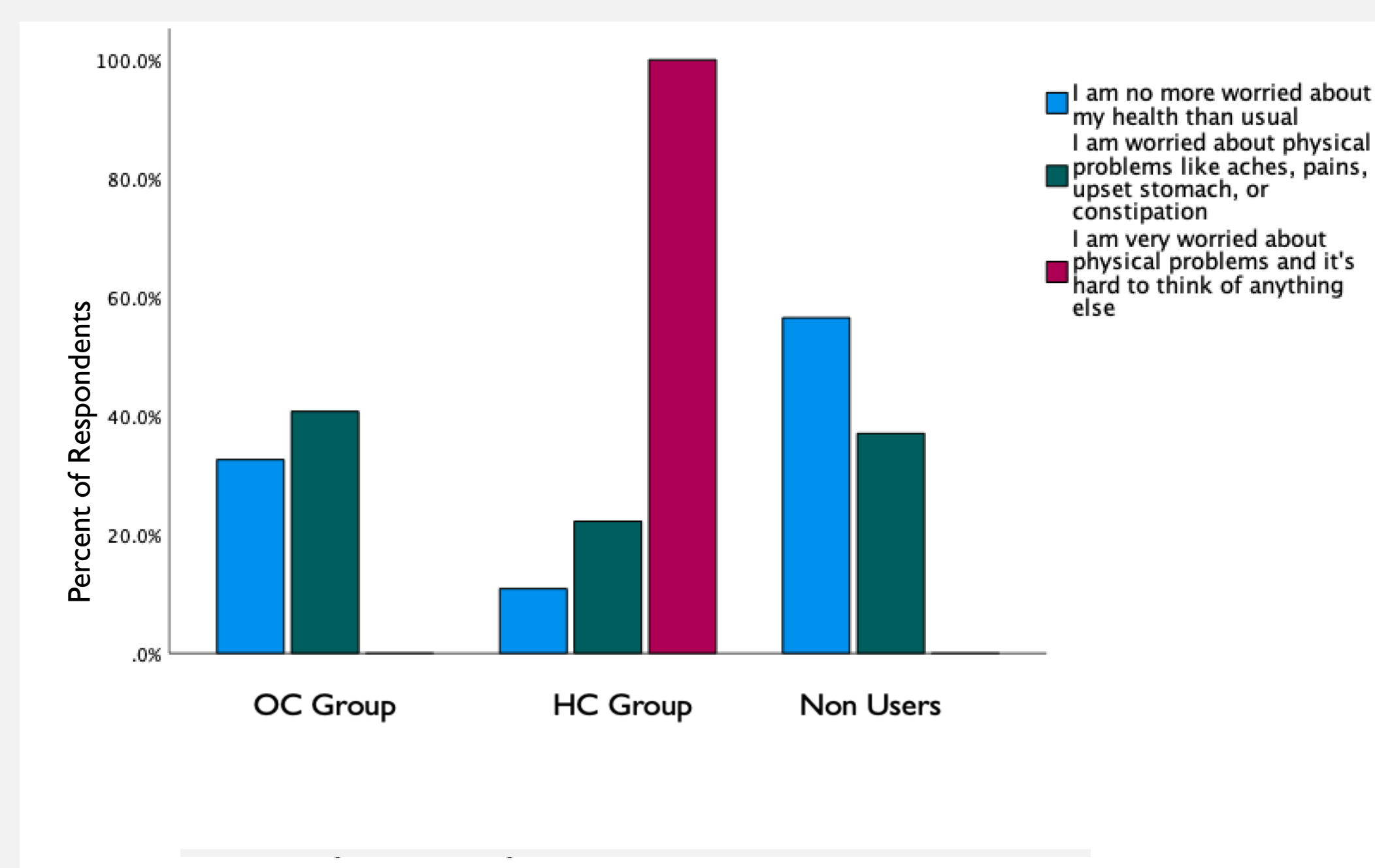


Figure 6: Worry about personal health

## Discussion & Conclusion

These findings suggest that contraceptives, regardless of brand and dosage, influence the mental health of female athletes. Many athletes use HCs to regulate performance, therefore it is important to note that those using HCs may be at risk for a decline in their well-being. An athlete using HCs may not perform to the standard they are hoping to achieve, as optimal performance relies on both physical and mental health. As scientists move forward in research on mental health and athletic performance, a focus on the influence of hormones must be addressed. Previous research identified several methods of cycle tracking that could give researchers a better understanding of the fluctuation of female hormones.<sup>3</sup> Without this understanding, a great deal of future research will likely conclude that the menstrual cycle does not have an effect on athletic performance. While this may or may not be true, it is impossible to tell without a better understanding of the hormonal environment at the time of the study. The more research that considers the hormonal environment of each participant, the less confusion there will be involving the relationship between the menstrual cycle and the mental health of female athletes. In turn, the athletes will be able to make more educated decisions about their healthcare and overall wellbeing, and be able to perform at their optimal levels.

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