

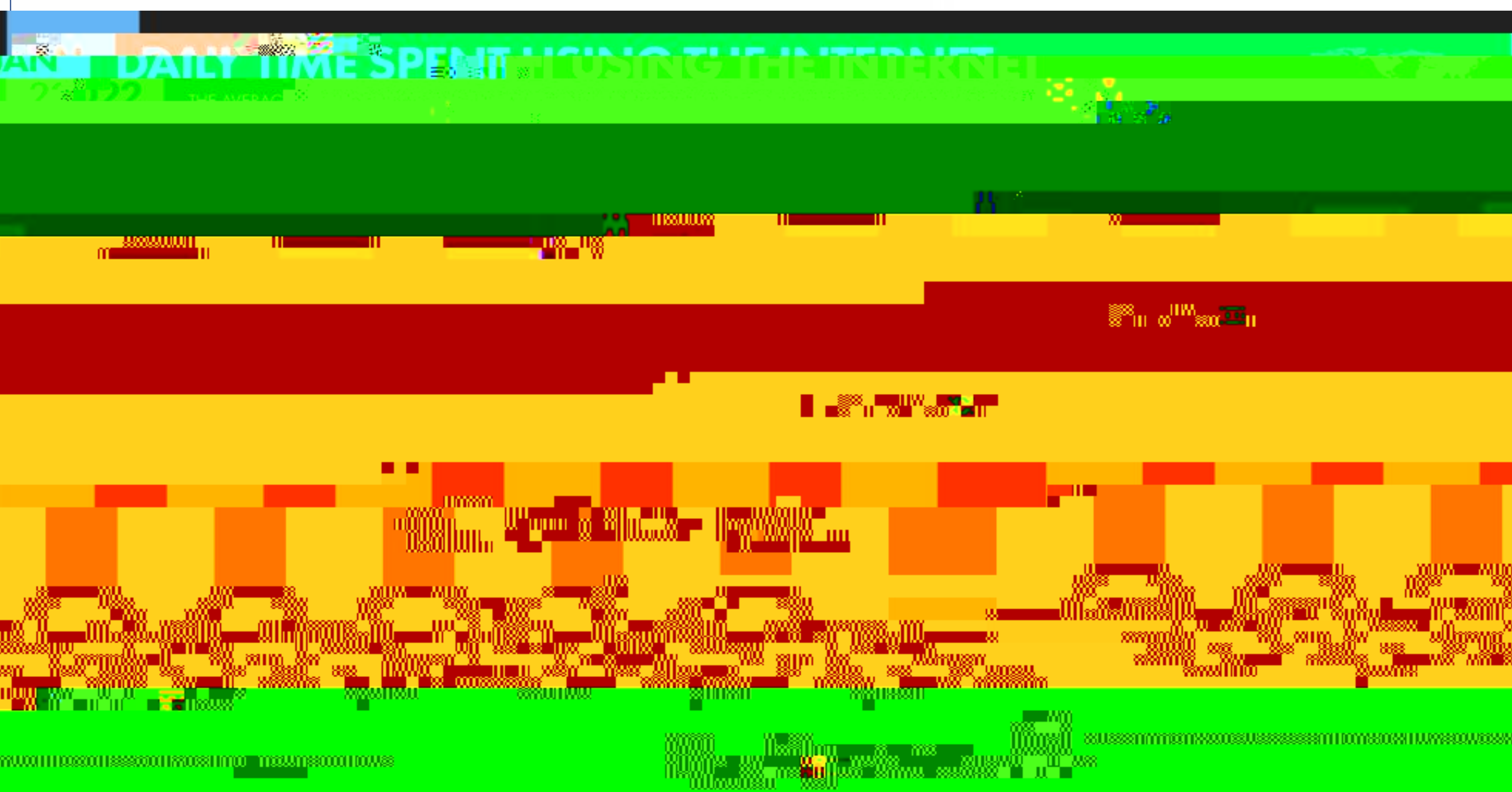
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## Introduction

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- To examine the effect short wavelength artificial blue light has on melatonin, cortisol, and insulin as the mechanisms of hormonal health
- To examine the effect short wavelength artificial blue light has on the circadian rhythms for sleep, behavior, and metabolism.



## Results

- Exposure shortened REM cycles of sleep by average 16 minutes.
- Exposure to Blue Light before bed increased sleep disruptions from average 4.5 to 7.2 times per night.
- Short wavelength blue light 60 minutes before bed led to maximum of 80% Melatonin suppression.
- Induced phase shifts in circadian rhythms, leading to early release of cortisol by 2 hours and delayed suppression by 3.6 hours.
- Can cause metabolic changes at night which increased peak blood glucose levels and insulin resistance.
- Irregularities in circadian rhythms can result in worsening of depressive disorders and anxiety from poor sleep patterns and diet.