

Correlation Between Menstrual Symptoms and College Academic Activities



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INTRODUCTION

Sleep and the menstrual cycle are greatly intertwined¹. Women have poorer sleep quality during menstruation, including difficulties in falling asleep and maintaining sleep². However, few studies have looked directly at the correlation between menstrual symptoms, sleep quality, stress, and academic activities.

METHOD

We will be collecting both qualitative and quantitative data for two menstrual cycles. Participants will be taking the same survey nightly **regarding the following aspects:**

- Severity of menstrual symptoms
- Severity of premenstrual symptoms
- Sleep quality
- Stress levels
- Academic activities

Participants will also be required to wear an Actiwatch 64, in order for us to have a more objective measurement of sleep quality. Following data collection, a regression analysis will be completed.

PARTICIPANTS

College women with a GPA of at least 2.5.

Exclusion criteria:

- Pregnant or actively trying to become pregnant
- Use of nicotine products
- Use of any form of birth control
- Use of a DivaCup
- Diagnosis of any type of:
 - Sleeping disorder
 - Menstrual disorder
 - Mental health illness/disorder
 - Chronic illness

RESEARCH PURPOSE

The purpose of this study is to analyze any relationships between menstrual cycle symptoms and sleep quality, stress levels, and their effects on college academic activities. In addition to these correlations, this study will also investigate whether students compensate for the negative effects of menstruation, how they compensate, and how much they compensate.

Please select all of the symptoms that you felt during the day, and record the highest level of severity that you felt at any point, and the time span at which you experienced the symptom in the blank next to/below the symptom.

	I am not experiencing this symptom 0	Mild 1	2	Moderate 3	4	Severe 5
Abdominal (stomach) cramping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pelvic cramping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lower back pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bloating (stomach or breasts)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sore breasts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mood swings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food cravings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Headache	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acne breakouts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Constipation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diarrhea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joint pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hot flashes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 1. Example image of menstrual symptoms and severity question.

EXPECTED RESULTS

- Female students may experience poorer sleep quality, higher stress levels, and decreased attention levels in class while menstruating.
- Academic activities will decrease during menstruation.
- Women are able to maintain their performance by compensating for the detrimental consequences associated with menstruation.
- Women with more severe menstrual symptoms will display a larger decrease in academic activities.

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How many hours did you spend studying today?
(Did including hours spent working on assignments/homework for class.)

Studying includes: re-reading textbooks or notes, re-writing notes, making flashcards, or other activities done purely for the preparation of tests and quizzes.

How many hours did you spend on assignments (e.g. classroom, research, homework) today?

Did you have any assignments due today? If yes, how many?

Yes

No

Figure 2. Example of academic activity questions

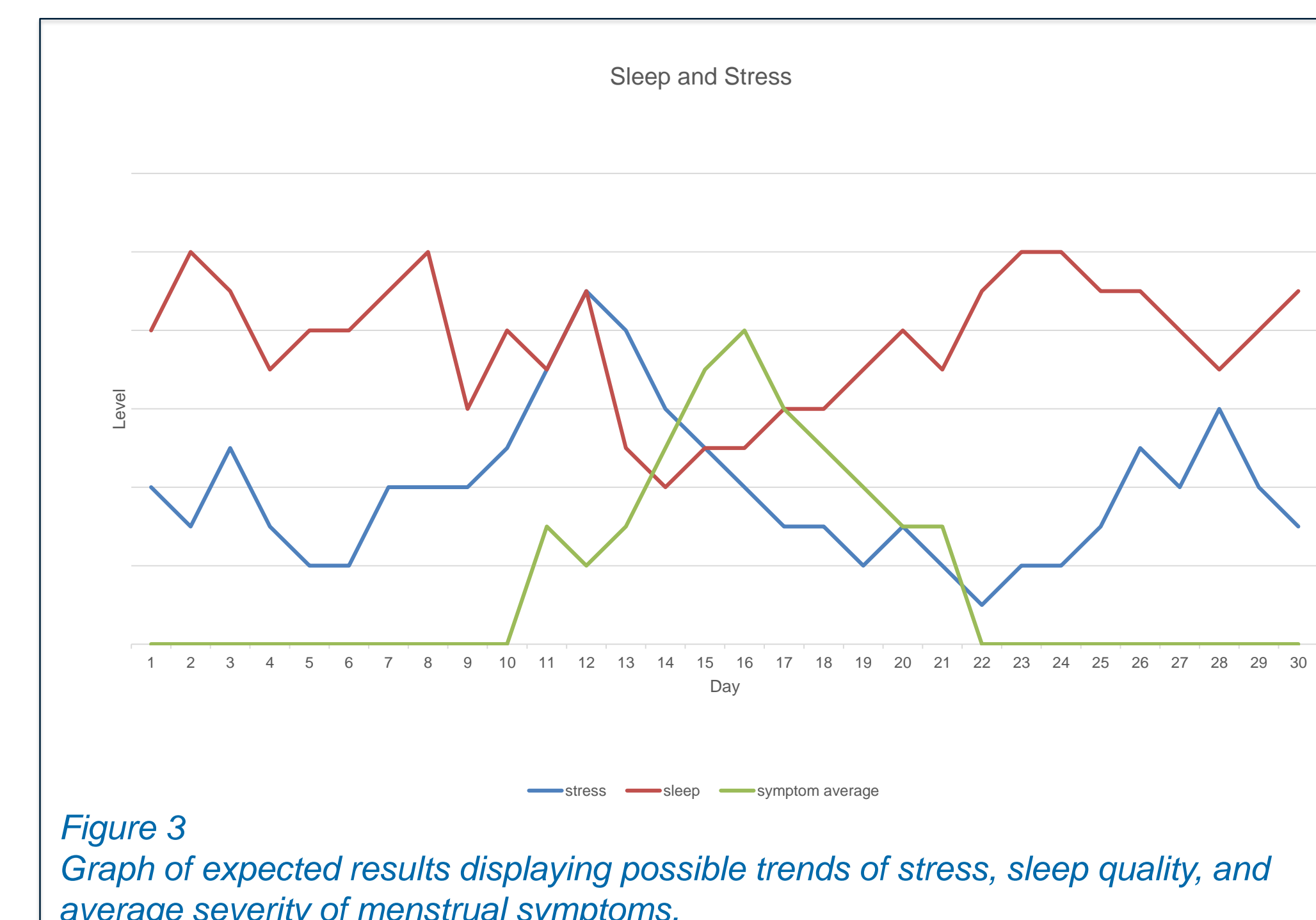


Figure 3. Graph of expected results displaying possible trends of stress, sleep quality, and average severity of menstrual symptoms.

IMPLICATIONS

One of the components of this study was to examine the compensation that occurs during menstruation. Compensatory responses reflect how, despite significant impact into their daily lives, women are able to maintain their average performance level.

LIMITATIONS

- Confounding variables
 - Unable to distinguish individual sources of stress or pain
 - Exaggeration of symptoms
- Self-report
- Loss of participants due to attrition

ACKNOWLEDGEMENTS

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REFERENCES

- Baker, F.C. & Lee, K.A. (2018). Menstrual cycle effects on sleep. *Sleep Medicine Clinics* 13. 283-294.
- Manber, R. & Bootzin, R. R. (1997). Sleep and the menstrual cycle. *Health Psychology*, 16(3), 209-214.

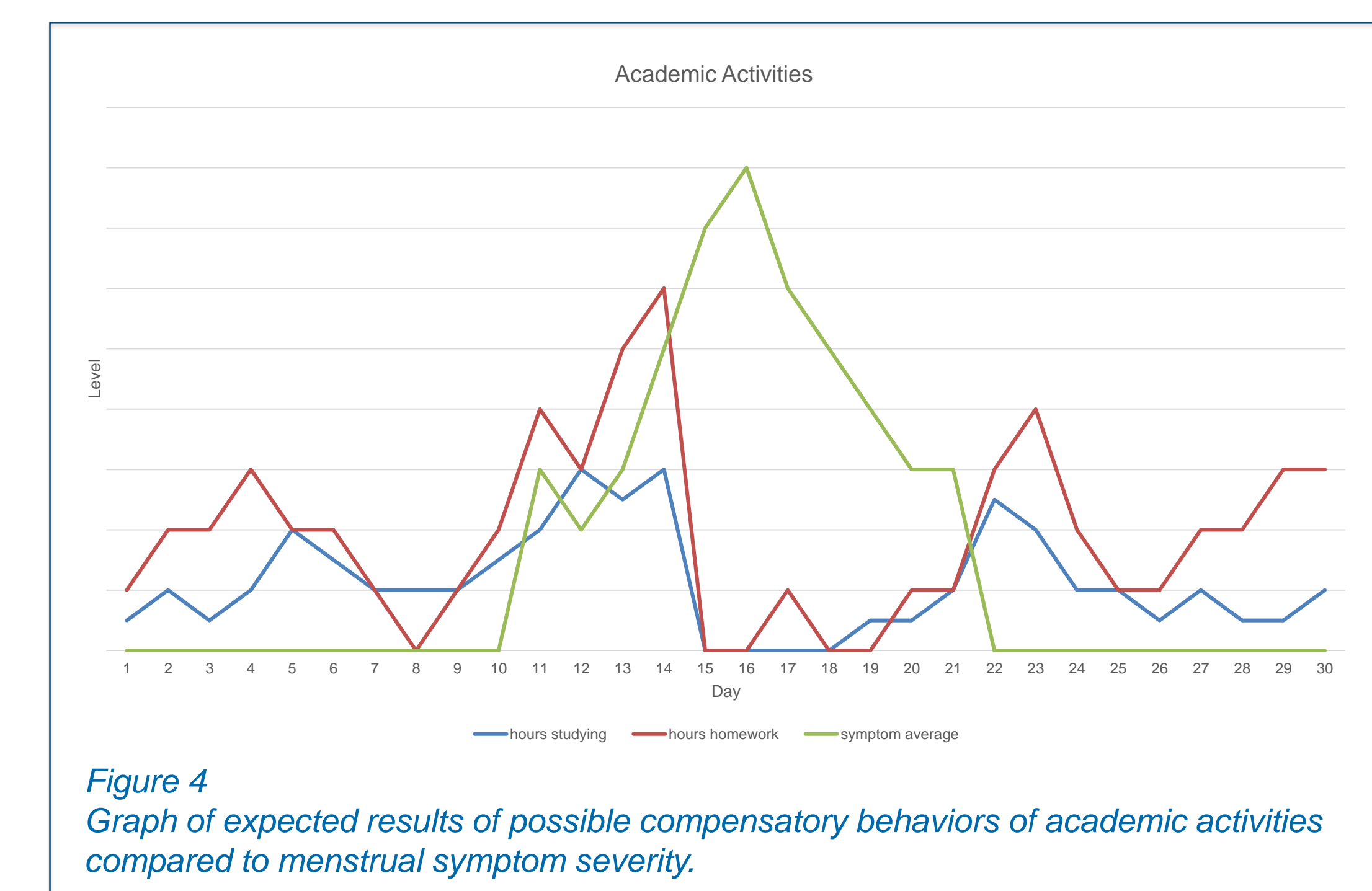


Figure 4. Graph of expected results of possible compensatory behaviors of academic activities compared to menstrual symptom severity.