Metacognition SOTL: Are Pharmacy Students Aware When They Know the Answer?

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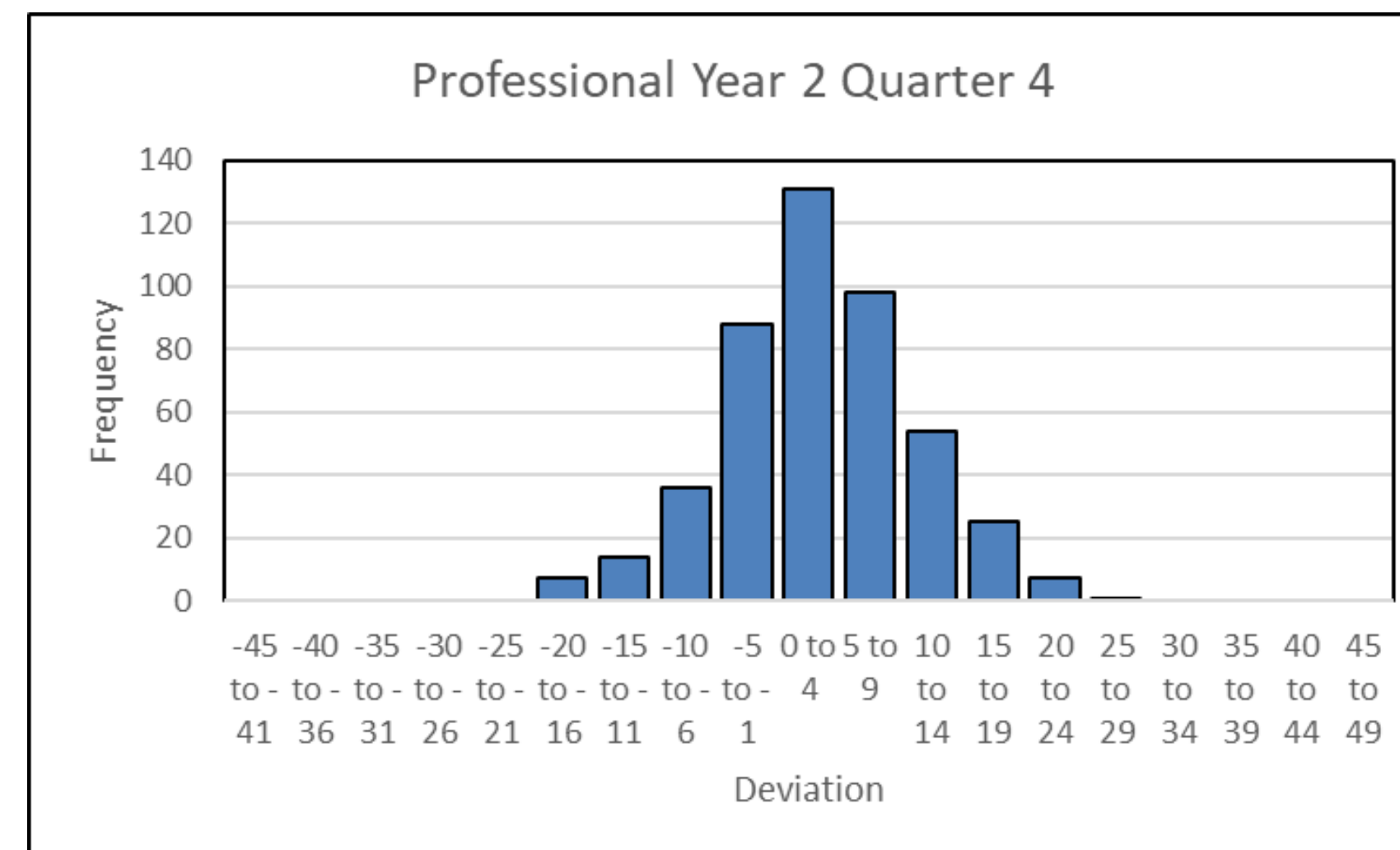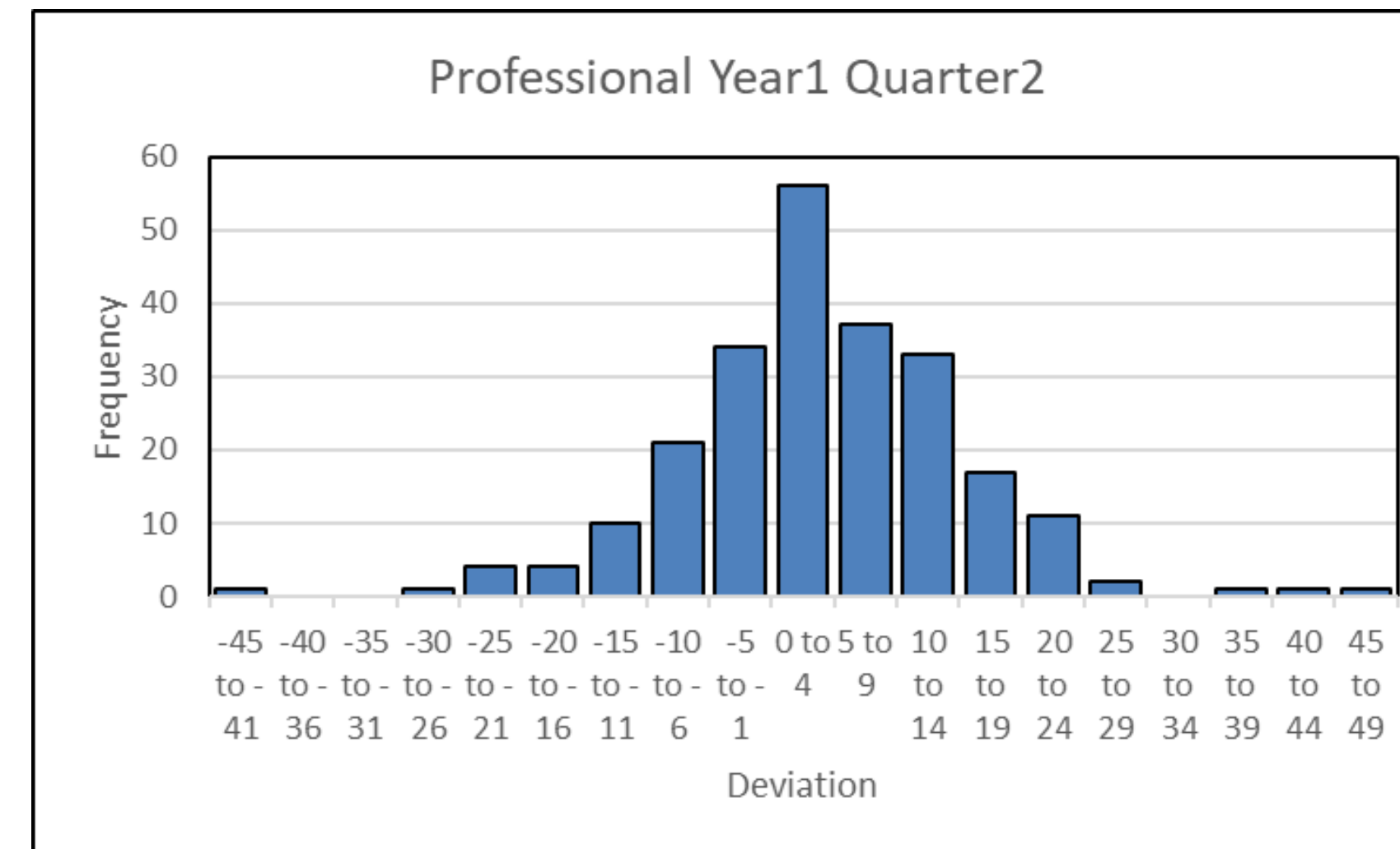
* Abstract: Self-awareness of 696 pharmacy students in a three-year program was analyzed to determine how accurately they realized when they knew the answer to a pharmacy question. Accuracy was seen to increase along with progression through the program. The mean skill level was near positive three indicating a slight tendency to underestimate actual knowledge. The range of accuracy was seen to decrease from [-44, 47] during the first pharmacy year to [-19, 25] during the second pharmacy year indicating improved accuracy in this self-awareness skill.

* Objectives: The hypothesis for this research is: Pharmacy students learn to be self-aware of their pharmacy knowledge during training in a college of pharmacy program. Practicing pharmacists need to be self-aware of whether they know the answer to a drug question. This skill was evaluated during didactic pharmaceutical science courses of a three-year pharmacy program at the professional year one second quarter (P1Q2) and the P2Q4 levels.

* Methods: 696 Students were each given a 40-question pharmacy exam. After completing the exam, each student predicted their exam score. The students were allowed access to their exam score after their prediction was recorded. The accuracy of each pharmacy student's prediction was analyzed by subtracting their prediction from their actual score to determine how well the student was aware when they knew the answer as opposed to when they did not know the correct answer.

* Results: 234 Students were from the P1Q2 level of pharmacy school and were taking a biochemistry course exam. This group showed a mean of 3.8 (SEM ± 0.73), a median of 3.0, a mode of 2.0, and a range from -44 to 47.

462 Students were from the P2Q4 level of pharmacy school and were taking a pharmacology/medicinal chemistry course exam. This group of students showed a mean of 2.6 (SEM ± 0.35), a median of 3.0, a mode of 5.0, and a range from -19 to 25.

Professional Year1 Quarter2

Professional Year 2 Quarter 4

* Conclusions: The average responses from both groups indicate that they are more likely to know the correct answer but doubt themselves. The average results were similar for both groups. The range is seen to decrease from P1 to P2 year indicating that the P2 students become more accurately aware when they actually know or don't know the correct answer upon being asked a question.

* Discussion: Pharmacist self-awareness is critical for daily practice. Upon being presented with a pharmaceutical question, a pharmacist must decide if they know the answer or do not. Knowing the answer is safe. Realizing that one does not know the answer and looking it up is safe. Believing that one knows the answer when one does not know the answer is unsafe for the patient.

* Future Directions: Continued collection of data is warranted to increase the number of participants and significance of this research.

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