COVER STORY

BRAINY BALLERINAS

Stars of Westside Ballet's "The Nutcracker" also excel in science and medicine

By Christina Campodonico

For many people, the closest association science and math may have with "The Nutcracker" is that the dancing confections in the Sugar Plum Fairy's fantasy Land of Sweets might have been cooked up by a mad scientist in some sort of fever dream.

(In reality, "The Nutcracker" ballet is adapted from French author Alexandre Dumas' cheerier take on E.T.A. Hoffman's dark Christmas tale starring a multi-headed mouse king.)

For four featured dancers in Westside Ballet of Santa Monica's upcoming production of "The Nutcracker," playing at The Broad Stage with a live orchestra the weekends of Nov. 30 and Dec. 6, the connections among science, math and dance are many.

Guest artist Savannah Lowery, making her Westside Ballet "Nutcracker" debut as the Sugar Plum Fairy, danced with New York City Ballet for 17 years before following in her MD parents' footsteps on a post-graduate path to medical school. (She completed a pre-med post-baccalaureate program at LMU this summer, and before that earned a degree in math while dancing professionally.)

When Mirabelle Weinbach isn't dancing the role of Dewdrop Fairy in the Waltz of the Flowers, the 18-year-old senior at

Brentwood School (who's also alternating the role of Sugar Plum with Lowery) is studying how the growth of a native California sagebrush plant could be impacted by wildfires and climate change and is planning a DNA study of that species. Rose Abarbanel, her 17-year-old classmate dancing featured corps de ballet roles as well as the Snow Queen in Westside Ballet's "Educational Suite" for local fifth graders, spent last summer conducting research on pancreatic beta cells at USC and hopes to study biochemistry in college.

Stella Grynberg, 16, is dancing the role of Arabian and several other featured roles. She's also working on an alternative treatment for rheumatoid arthritis through an

independent study at her high school, The Archer School for Girls. (In eighth grade she developed a conceptual detector for Alzheimer's disease, and like Weinbach, is undertaking high-level calculus coursework.)

These performers' pairings of highly



"rightbrained" and "left-brained" pursuits may be unexpected, but each dancer sees a throughline connecting their pursuit of science and ballet, as I learned during a wide-ranging conversation last week at the Lyft offices adjacent to Westside Ballet's studios.

The Scientific Method

"They both have sort of a baseline structure or rules that you have to follow," says Abarbanel. "For ballet it's technique — it's very rational and logical what you have to do, like the basic positions or the different steps. And in science there's ... a protocol, or a way that you have to go about things.

"In the lab," she elaborates, "there's a big focus on precision, right? Because if you put the wrong solution in the wrong vile, bad things happen — waste a million dollars. ... If you drop something it could be months' worth of work on a little plate that you just destroyed. ... But that focus on detail is really important for ballet because even though you are dancing and moving, there's such a precision to it."

At the same time, Abarbanel appreciates how the performative aspects of ballet and the process of coming up with scientific experiments can both encourage creative self-expression.

"In ballet and in science, you can take it wherever you want to go," she says. "I think the creativity from ballet Left: Mirabelle Weinbach Below: Stella Grynberg (second from the left), Mirabelle Weinbach (third from left) and Rose Abarbanel (fourth from left)

influences the creative approach that we all seem to be taking towards science. And then likewise ... the more analytical side of science is applicable to our ballet training," adds Weinbach, likening the fine-tuning of a turn to methodically solving a math problem or puzzle. "Like, let's say my pirouettes are off and it's not working. I have to try a bunch of things and figure out, 'Is it my arm, or am I not releve-ing fast enough? ... Those two different things actually seem very similar to me."

For Grynberg, it's the connection between dance and nutrition that excites her scientific inquiries.

"From dancing, I'm so into nutrition and taking care of myself," she says. "That's how my whole science research was sparked because of my love and involvement in nutrition."

"I know everyone talks about right brain, left brain and [how] those are different sides," says Lowery, who's looking forward to learning more about the tendons that hurt her "so much" as a professional ballerina in medical school. "But the discipline and just the study of ballet align so well with math and science. The approach to both fields is very similar, so I don't think it's that strange."

"I'm constantly drawing the connections," Lowery continues, elaborating on the choreography of New York City Ballet founder George Balanchine, whose work she performed frequently as a soloist for the company. "Especially a lot of the Balanchine rep is architectural, and

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