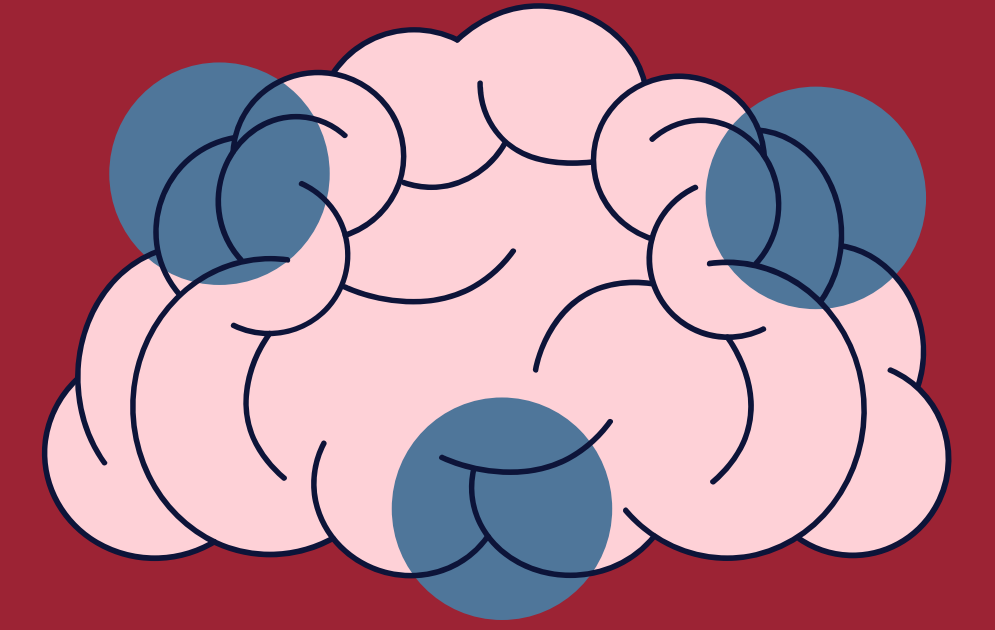


Source Monitoring Deficits in Individuals With Higher Positive Schizotypy Trait Presentation

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Background & Hypotheses

- Schizotypy is a set of traits associated with greater risk for psychosis like schizophrenia (Park et al., 2022).
- They tend to be mild, often go unnoticed, cause little concern, and are not treated (e.g. magical thinking, mild disturbances in cognition).
- Occurs in 10% of the healthy, general population (Kwapil & Barrantes-Vidal, 2015).
- Symptoms of psychotic disorders can threaten source monitoring (SM) capacity, or the ability to decipher the source of information. SM can be internal (self/imagined stimuli) or external (dialogue, outwardly consumed stimuli).
- The present study investigated the correlation between high positive schizotypy trait presentation and SM deficit.

Our Hypotheses:

- Higher positive schizotypy is correlated with poorer SM performance regardless of the SM task (internal vs. external or external vs. external).
- Higher positive schizotypy traits is more significantly correlated with poorer performance on internal vs. external SM tasks (i.e., reality monitoring) than on external vs. external SM tasks.
- Higher positive schizotypy is correlated with higher vividness ratings for internally generated stimuli than externally generated stimuli.
- Greater SM errors will result in higher incorrect vividness ratings in individuals with higher positive schizotypy trait scores.

Methods

- Undergraduate participants in introductory psychology classes at the University of Alabama ($N=345$) were asked to partake in online SM tasks recalling the sources of various video stimuli.



- After the test phase of the study, participants took a schizotypy questionnaire titled the O-LIFE^{2&3}, specifically the sections of the questionnaire that quantify positive schizotypy: *Unusual Experiences* ("Have you felt as though your head or limbs were somehow not your own?") and *Cognitive Organization* ("Are you easily confused if too much happens at the same time?").
- Lastly, participants answered 2 questions gauging their anxiety and depression levels to ensure that anxiety and depression were not the driving factor of cognitive deficit. Each participant also took a 36-question vocabulary test to account for potential confounds in verbal acuity.

Analysis:

- All participants who specified that they have ever had a psychotic episode and/or have taken antipsychotic medication in the past year were removed from the sample.
- Any participant scoring less than chance (< 0 on a -1 to 1 scale) on overall SM accuracy were removed for analysis purposes to account for misunderstanding or mindlessly clicking through the online tasks.
- Correlation analyses were run via SPSS.

Results

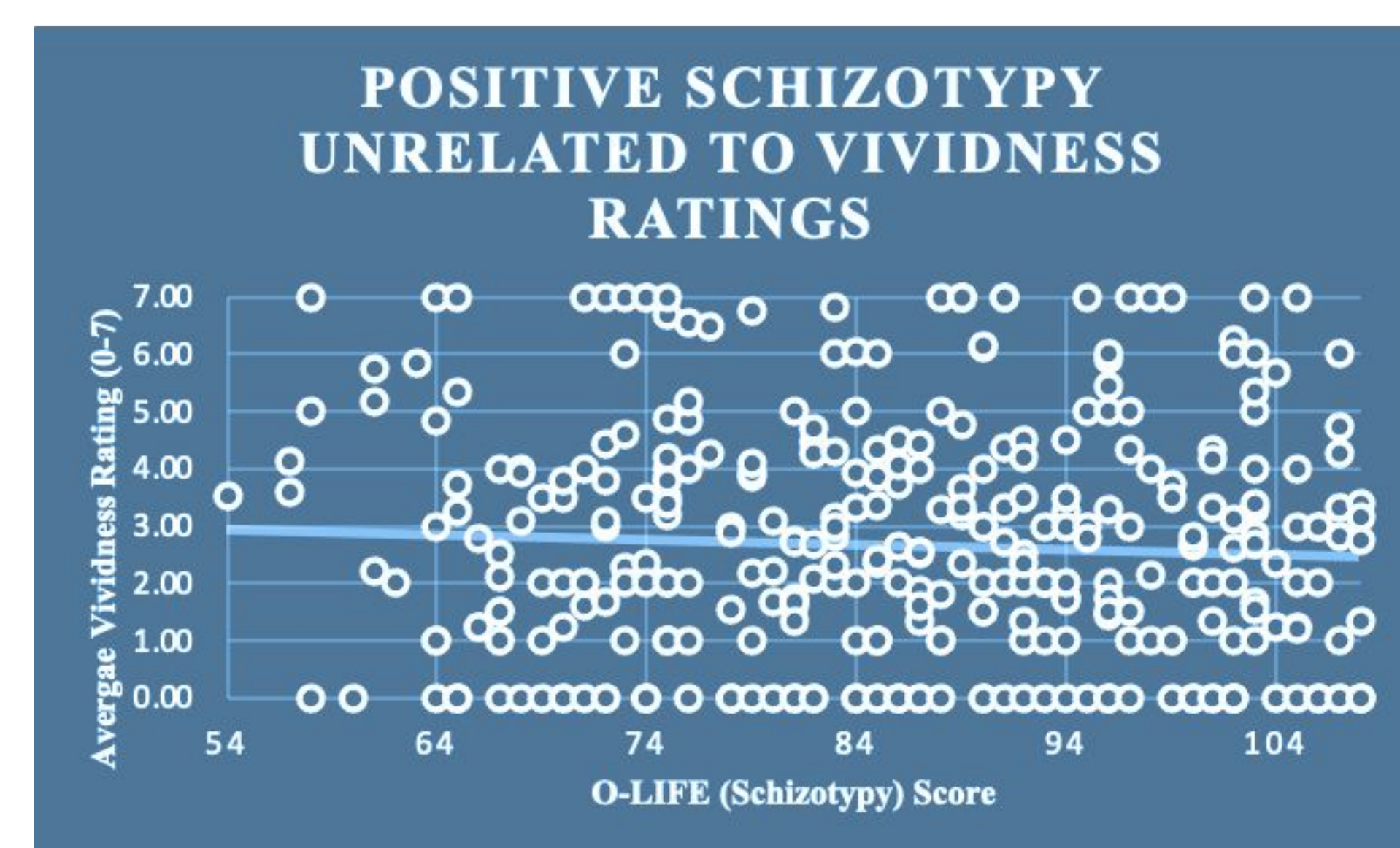
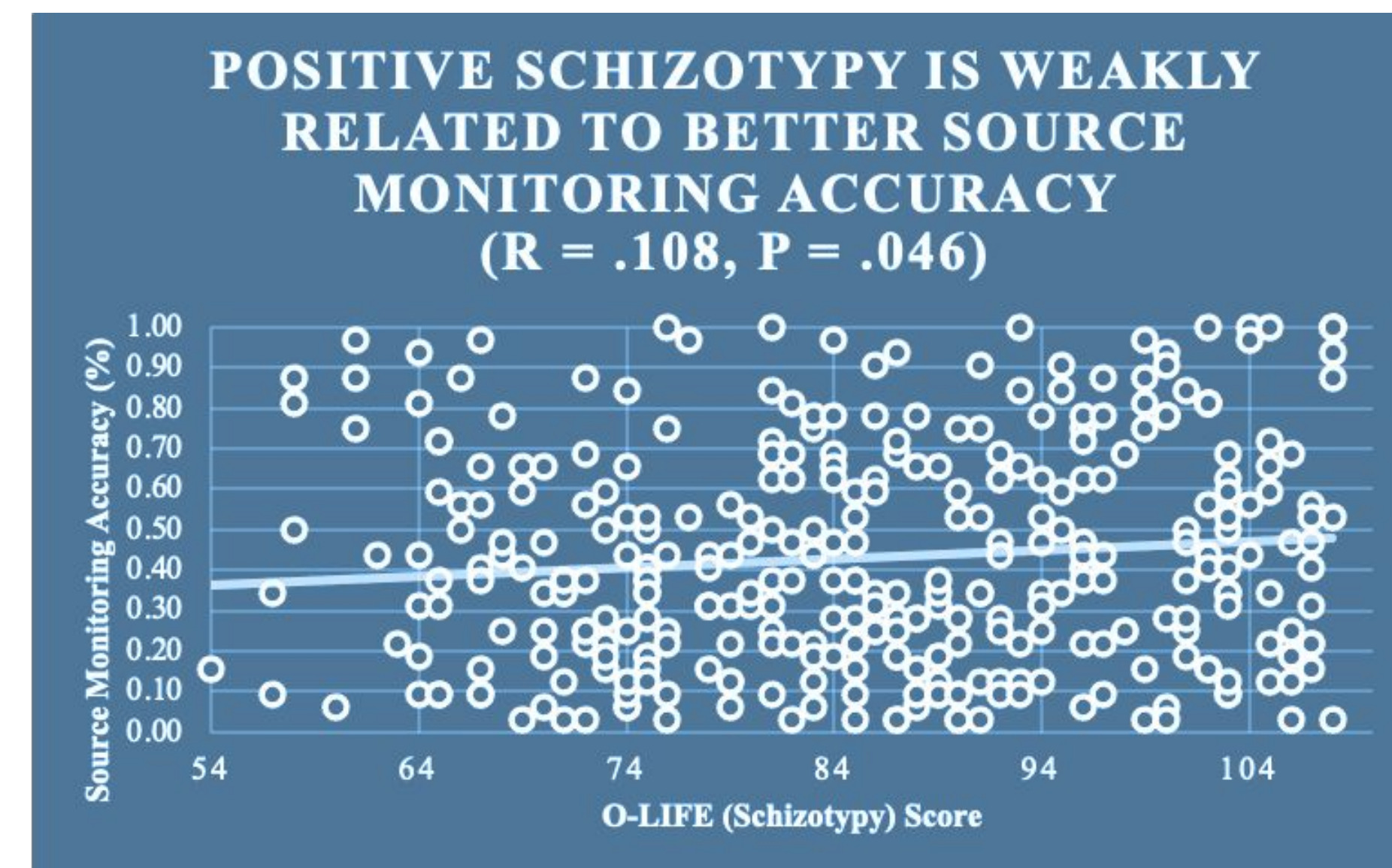
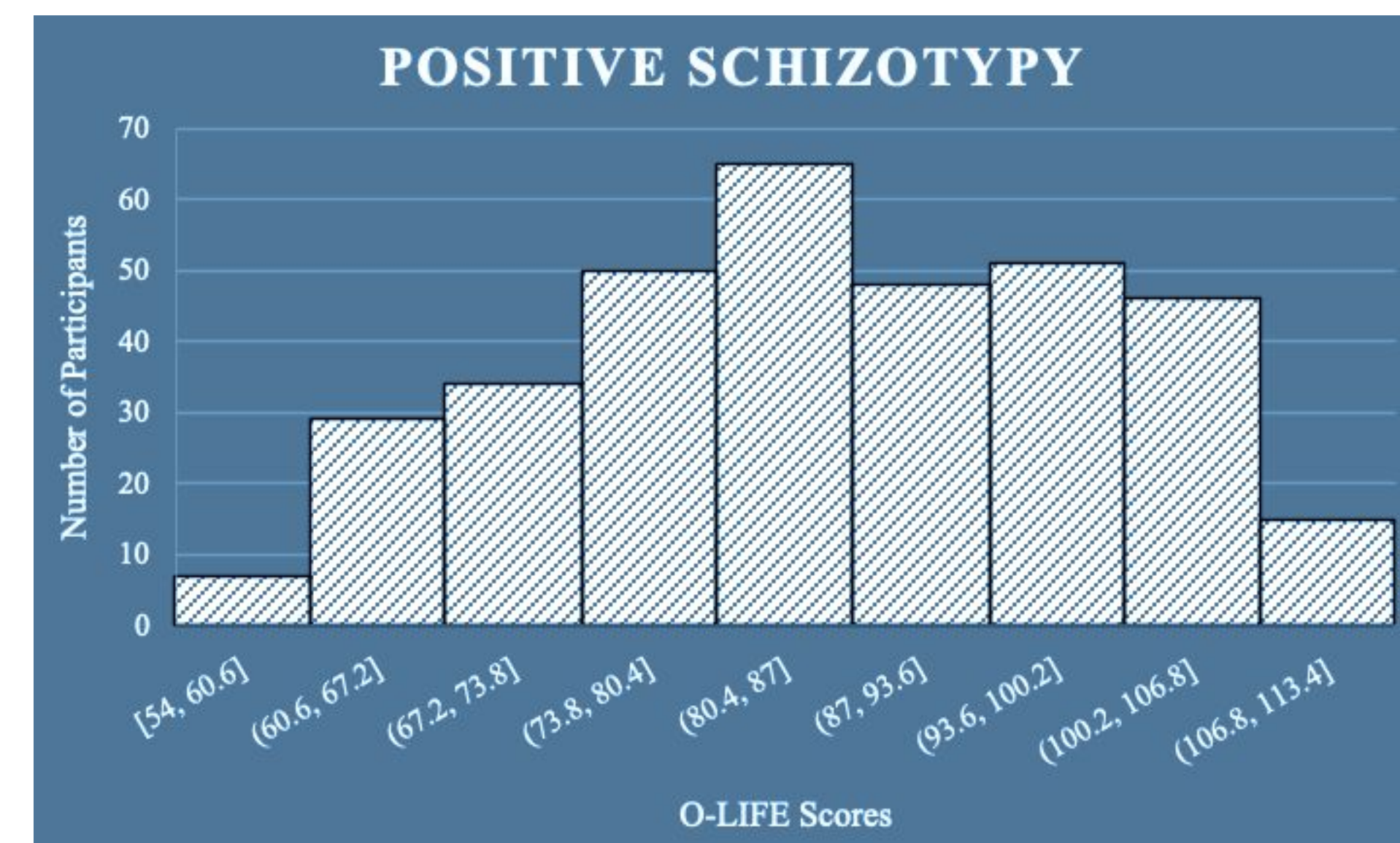
Correlation Table for Hypotheses 1-2

	O-LIFE	SM ACCURACY	INT SM ACCUR	EXT SM ACCUR	VOCAB	ANXIETY
SM ACCURACY	.108*					
INT SM ACCUR	.049	.749**				
EXT SM ACCUR	.110*	.724**	.085			
VOCAB	-.033	-.001	-.010	.009		
ANXIETY	-.315**	-.002	.002	-.004	-.252**	
DEPRESSION	-.349**	-.023	-.029	-.004	-.189**	.508**

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Correlation Table for Hypotheses 3-4

	O-LIFE	SM ACCURACY	AVG INT VIVIDNESS	AVG EXT VIVIDNESS
SM ACCURACY	.108*			
AVG INT VIV	.059	.001		
AVG EXT VIV	-.030	-.021	.746**	
AVG INCORRECT VIV	-.057	.007	.134**	.068



Demographics

- The average age of participants was 18.71 years.
- 19.13% of participants identified as male, 79.71% identified as female, and 1.16% identified as other/gender-nonconforming or declined to answer.
- Regarding the racial breakdown of participants, 77.68% of participants identified as White, 16.23% as Black/African-American, 3.77% as Other, 2.03% as Asian, and 0.29% as American Indian/Native American. Ethnically, 11.01% of participants indicated being Hispanic/Latinx/Spanish, 77.4% indicated not being Hispanic/Latinx/Spanish, and the remaining 11.59% did not specify.
- 87.24% of the sample were right-handed, 10.14% were left-handed, and 2.62% were ambidextrous.

Conclusions & Discussion

Hypothesis 1

- Positive schizotypy and SM were correlated, but in the opposite direction than hypothesized.
- O-LIFE scores (higher schizotypy) elicited higher/better overall SM accuracy.

Hypothesis 2

- Participants had a more difficult time on internal SM tasks but not significantly. External SM was also correlated in the opposite direction of what was hypothesized, in that higher O-LIFE scores indicated better external SM accuracy.

Hypothesis 3

- Participants with elevated positive schizotypy levels had higher vividness ratings for internally generated stimuli than externally generated stimuli but not to a statistically significant extent.

Hypothesis 4

- In the case of incorrect vividness ratings, the results show no indication that individuals with higher positive schizotypy and lower SM task efficacy present higher incorrect vividness ratings.

- Both anxiety and depression were significantly correlated with higher positive schizotypy, but inversely. Higher O-LIFE scores indicated lower anxiety and depression on average as compared to lower O-LIFE scores. Anxiety and depression ratings also had little to no effect on overall SM accuracy.

- There were no significant findings concerning schizotypy, SM, and the demographic information provided by participants.

- Many of these findings that do not align with previous literature may be indicative of the lower reliability associated with online tasks. It must be acknowledged that the tasks presented were quite time consuming and required significant brain power; such tasks probably would have been more successful in an in-person laboratory setting under researcher supervision.

- Additionally, the sample for this study came from a higher-education institution, perhaps indicating that even the individuals that legitimately scored high in schizotypy could be considered high-functioning. Those with high schizotypy and significant SM deficits may not have the capability to succeed in the typical undergraduate setting.

- Although these findings do not fully support the hypotheses, this research is imperative to better understand the etiology of psychotic disorders, especially having to do with the vividness of memory.

References

- Kwapil, T. R., & Barrantes-Vidal, N. (2015). Schizotypy: Looking back and moving forward. *Schizophrenia Bulletin*, 41(suppl_2), S366-S373. <https://doi.org/10.1093/schbul/sbu186>
- Mason, O., Claridge, G., & Jackson, M. (1995). New scales for the assessment of schizotypy. *Personality and Individual Differences*, 18(1), 7-13.
- Mason, O., & Claridge, G. (2006). The Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE): further description and extended norms. *Schizophrenia Research*, 82(2-3), 203-211. <https://doi.org/10.1016/j.schres.2005.12.845>
- Park, H. Y., Bang, M., Seo, E., Koo, S. J., Lee, E., Lee, S. K., & An, S. K. (2022). The stress-vulnerability model on the path to schizophrenia: Interaction between BDNF methylation and schizotypy on the resting-state brain network. *Schizophrenia*, 8(1), 49. <https://doi.org/10.1038/s41537-022-002584>

For more information & references:

