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Personality Rigidity and Psychopathology Pre and Post COVID19 Pandemic

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Personality Rigidity and Psychopathology Pre and Post COVID19 Pandemic



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Abstract

Personality structure of an individual can fall on a spectrum from rigid to flexible. It is possible that the intensity of identification with personality traits may be related to response times to the individual questions on the personality test. This current research is a continuation from previous work and looks to expand the findings of the research conducted by Pincus et al. (2019) in Fractal Self-Structure and Psychological Resilience and by McDaniel (2020) in Fractal Response Time Distributions using the M5-50. Expanding on the results of Pincus et al 2019 and McDaniel 2020, the current study tests the hypothesis that personality rigidity is adaptive in a low stress environment. However, when stress is higher, a more flexible personality structure may be more adaptive. Personality rigidity will be measured using the shape of inverse power law distributions of response times on the M5-50 (Big 5 Personality) for each participant. The correlations between this measure of rigidity and psychopathology will be compared to a sample of pre pandemic and pandemic college students. The pre pandemic samples will act as the pre-stress condition, and the pandemic samples will act as the stress condition. The significance of this study is to see if stress has a defining impact on those with simpler personality structures, and in turn if those personality structures combined with stress can lead to psychopathology.

Fig. 1

Hypothesis 1: Personality rigidity predicts psychopathology

Hypothesis 2: There will be a difference between the correlations pre and post pandemic such that the correlations post pandemic will be larger

References

Pincus, D., Cadsky, O., Berardi, V., Asuncion, C. M., & Wann, K. (2019). Fractal Self-Structure and Psychological Resilience. *Nonlinear Dynamics, Psychology, and Life Sciences*, 23(1).
Lovibond, S. H., & Lovibond, P. F. (1995). Depression Anxiety Stress Scales. *PsychTESTS*. <https://doi.org.libproxy.chapman.edu/10.1037/t01004-000>
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Methodology

593 undergraduate college students volunteered to complete the DASS Scale as part of a larger study on anxiety. The test was administered online through Qualtrics, and responses to each question were scored on a Likert type scale from 0-3. Eleven participants were removed for incomplete responding leaving N = 582. The participants completed the test twice, once in 2019 and once in 2020. The 2019 results act as the pre-stress, pre-pandemic sample, and the 2020 results act as the stress/pandemic sample.

2019		DASS.TOT	DASS.Depression	DASS.Anxiety	DASS.Stress	R.2	Rigidity.ABS
DASS.TOT	R, p-value	--,--					
DASS.Depression	R, p-value	0.911 , < .001	--,--				
DASS.Anxiety	R, p-value	0.913 , < .001	0.727 , < .001	--,--			
DASS.Stress	R, p-value	0.929 , < .001	0.760 , < .001	0.805 , < .001	--,--		
R.2	R, p-value	-0.016 , 0.734	-0.008 , 0.873	0.008 , 0.864	-0.054 , 0.265	--,--	
Rigidity.ABS	R, p-value	0.060 , 0.211	0.015 , 0.749	0.116 , 0.016	0.037 , 0.440	0.434 , < 0.001	--,--

Correlation matrix for 2019, pre-stress conditions

2020		DASS.TOT	DASS.Depression	DASS.Anxiety	DASS.Stress	R.2	Rigidity.ABS
DASS.TOT	R, p-value	--,--					
DASS.Depression	R, p-value	0.923 , < .001	--,--				
DASS.Anxiety	R, p-value	0.911 , < .001	0.756 , < .001	--,--			
DASS.Stress	R, p-value	0.919 , < .001	0.761 , < .001	0.776 , < .001	--,--		
R.2	R, p-value	0.177 , 0.030	0.148 , 0.069	0.158 , 0.053	0.184 , 0.024	--,--	
Rigidity.ABS	R, p-value	0.181 , 0.026	0.115 , 0.064	0.174 , 0.032	0.177 , 0.029	0.371 , < 0.001	--,--

Correlation matrix for 2020, stress conditions

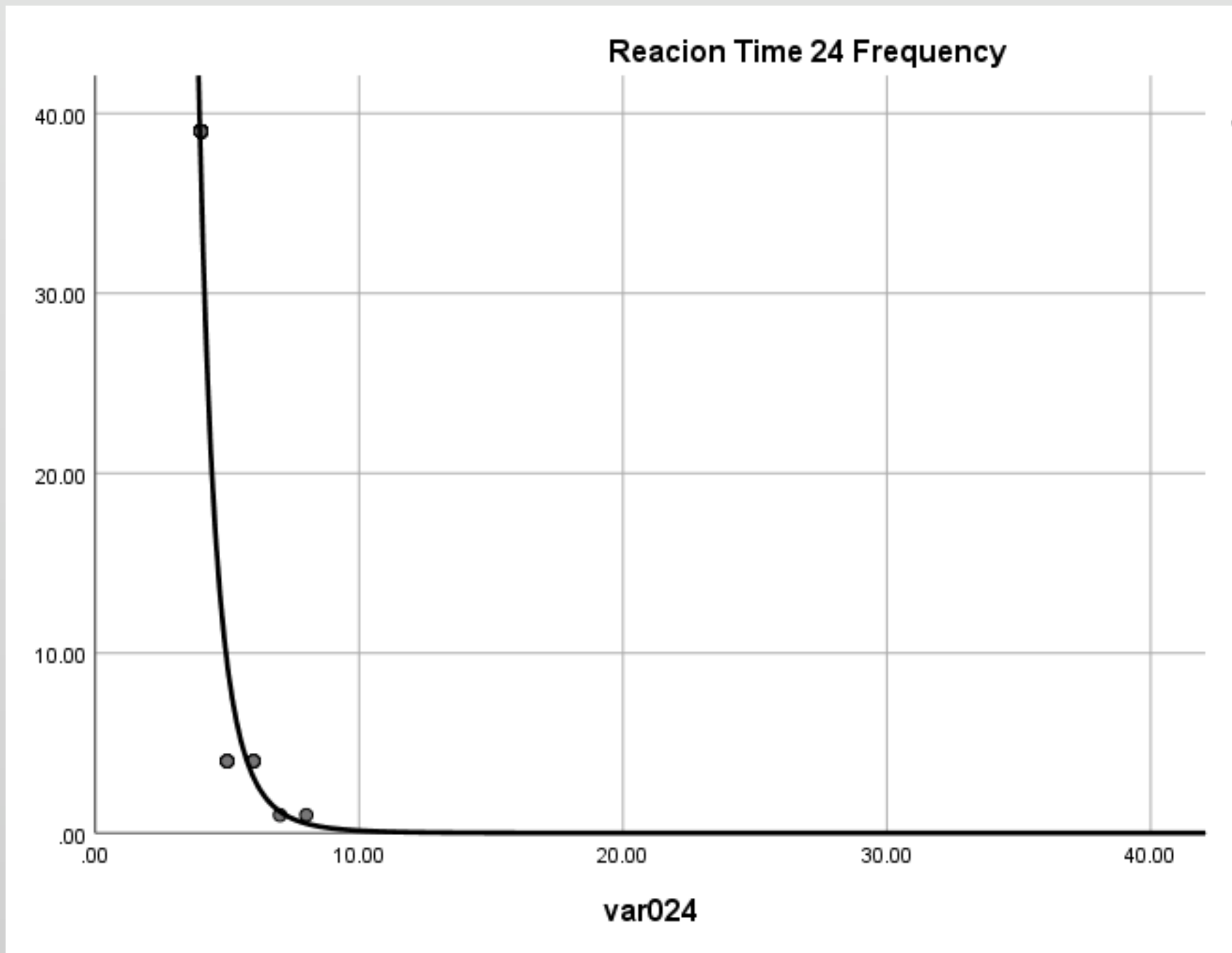
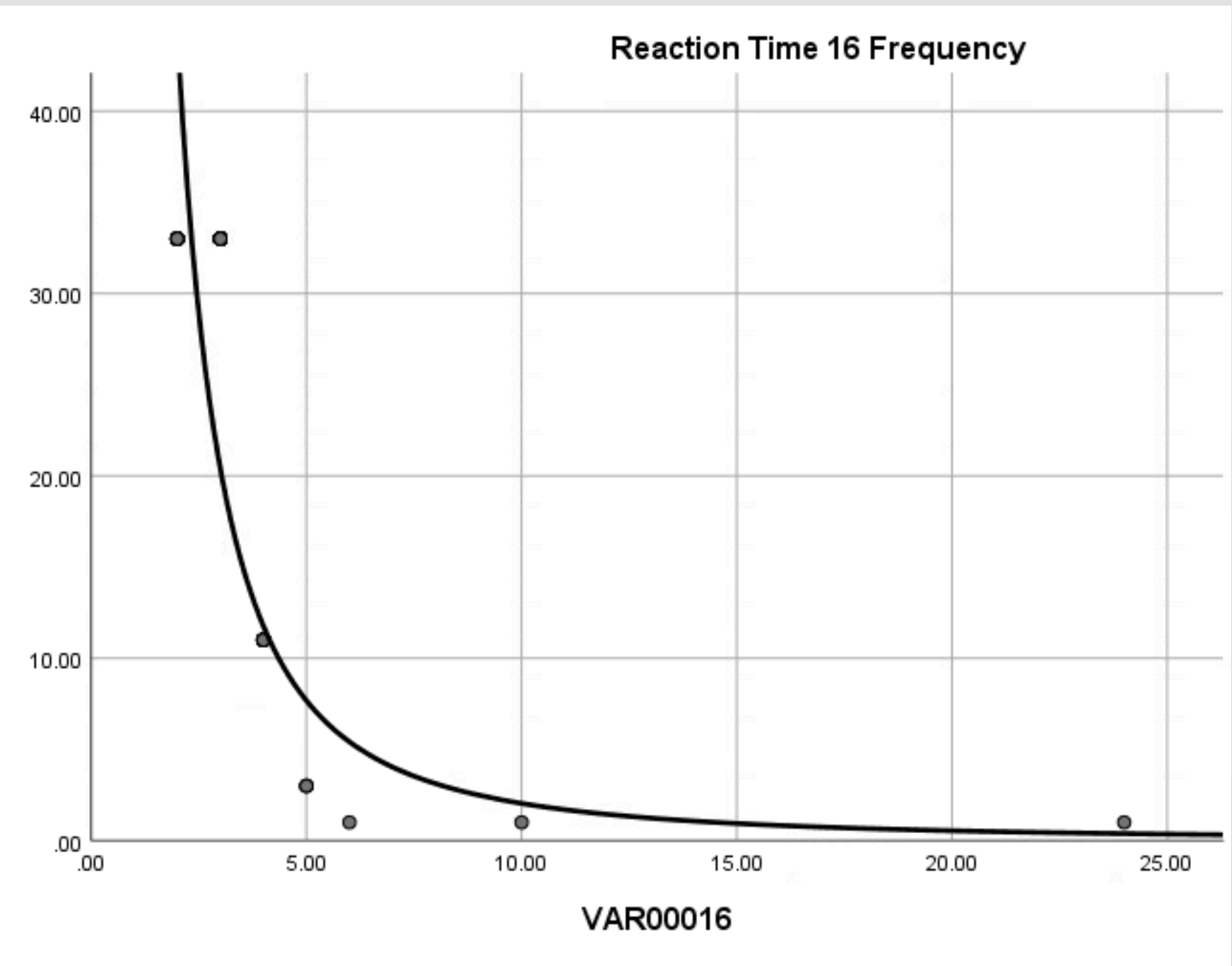


Figure 1 and figure 2 show examples of flexible and rigid inverse power law distributions (Y Axis: Frequency , X-axis: time in seconds)

Conclusion

Hypothesis 1 was supported in both pre and post pandemic conditions. It was seen that the stronger the fit index, the more total psychopathologies they were susceptible to, especially stress. We found that hypothesis 2 was not well supported before the pandemic but was strongly supported after the pandemic. The more trait like measure of pathology, anxiety, was significant with rigidity pre pandemic but the more state like forms of psychopathology were correlated post pandemic. This provides support that anxiety or running anxious is more of a characteristic or trait rather than a periodical state. Future research will be conducted to analyze the underlying trait of neuroticism that pairs with anxiety. The support for hypothesis 2 with evidence that the DASS Depression and Stress correlations increased in the post pandemic sample show that these psychopathologies are more state like and can change depending on subjective experience

Results

Significant correlations with the anxiety measure of the DASS scale were in a consistent direction with rigidity predicting healthier functioning in the pre pandemic sample. Regarding the post pandemic sample, significant correlations with the stress measure of the DASS scale, the anxiety measure of the DASS scale, and the DASS totals scores were found in support for the hypothesis that rigidity predicts psychopathology. Post hoc: The more trait like measures of pathology, like anxiety, were significant with rigidity pre pandemic. However, the more state like forms of psychopathology, like depression and stress, were correlated post pandemic. This pattern of results is consistent with the idea that flexibility is a resilience related factor

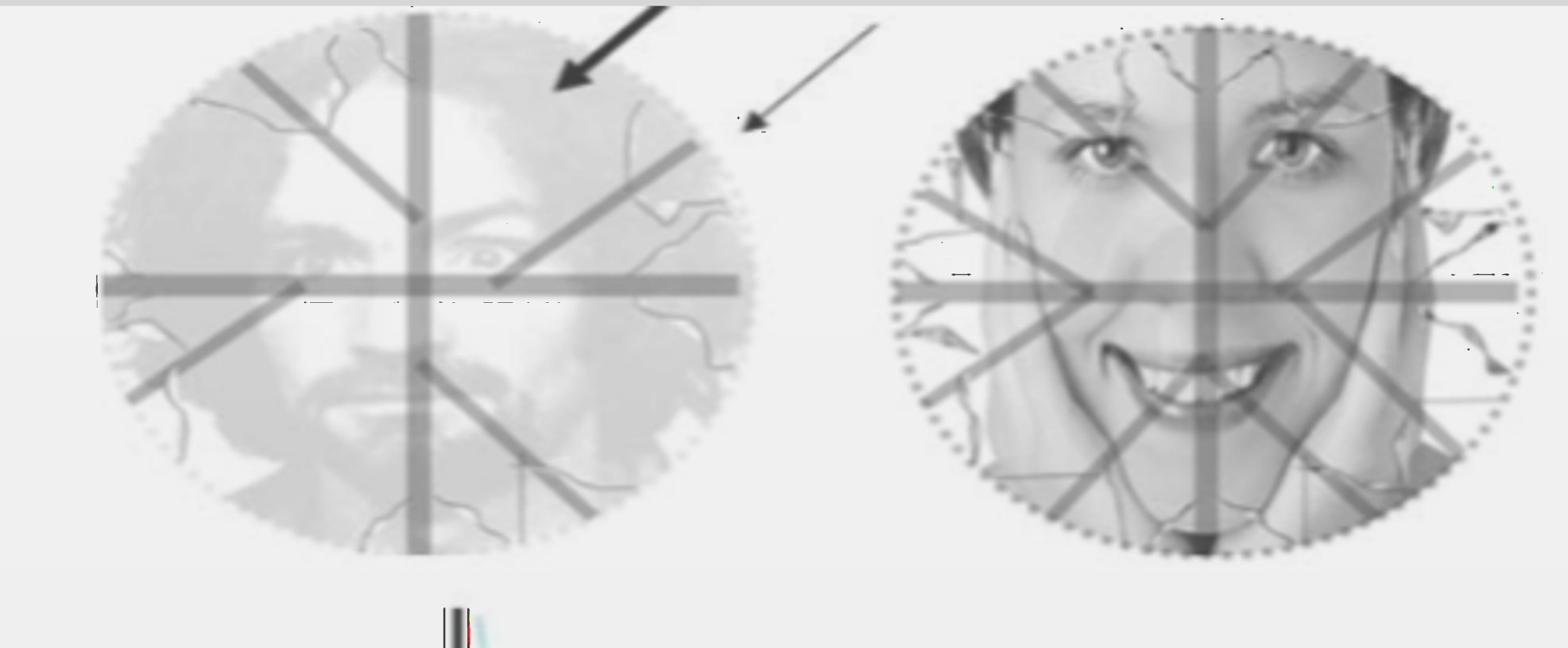


Fig. 2