Integration of Projective Instruments (Handwriting Analysis) with PVQ-Test for the Assessment of Basic Human Values and Motivations

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Psychometric Questionnaires	Projective Instruments
Cover only one to few specific personal characteristics	Cover wide aspects of personality
Structured	Less structured
Transparent	Not transparent
Self-image	External image
Social desirability	Indifferent, objective

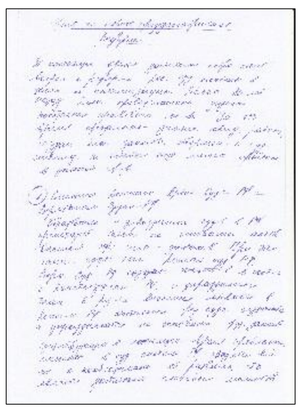
Formalization and computerization of Handwriting Analysis to improve its psychometric characteristics

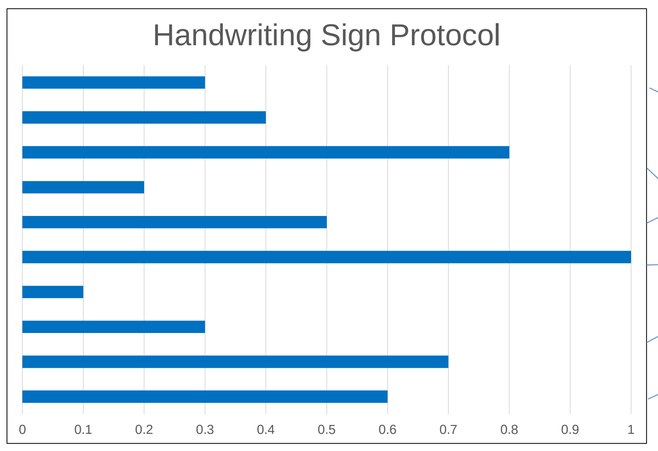
HSDetect: hybrid (semi-automatic) handwriting analysis DB & program

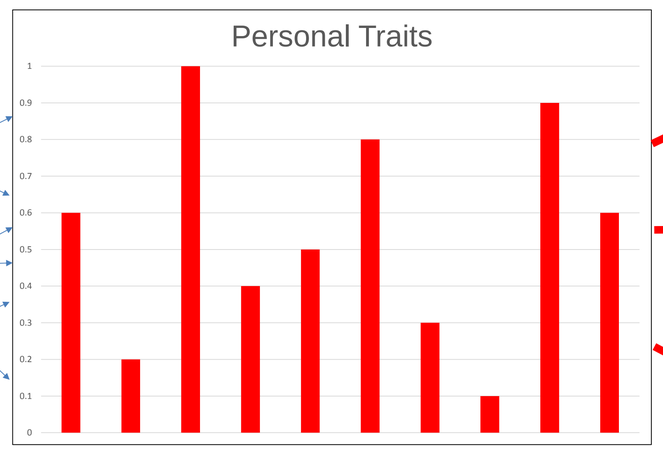
Portraits Value Questionnaire PVQ (Schwartz Theory of Basic Values)

No	Code	Scale	Goals
1	SD	Self-Direction	Independent thought and action-choosing, creating, exploring
2	ST	Stimulation	Excitement, novelty, and challenge in life
3	HD	Hedonism	Pleasure and sensuous gratification for oneself
4	AC	Achievement	Personal success through demonstrating competence according to social standards
5	PW	Power	Control or dominance over people and resources
6	SC	Security	Safety, harmony and stability of society, of relationships, and of self
7	CF	Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
8	TR	Tradition	Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self
9	BN	Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
10	UN	Universalism	Understanding, appreciation, tolerance and protection for the welfare of all people and for nature

Formalized Handwriting Analysis with HSDetect







PVQ
SD
ST
HD
AC
PW
SC
CF
TR
BN
UN

$$y = f(a_1 \cdot x_1, \dots a_n \cdot x_n)$$

$$c = f(n)$$

$$v = y^{\alpha} \cdot c^{1-\alpha}$$

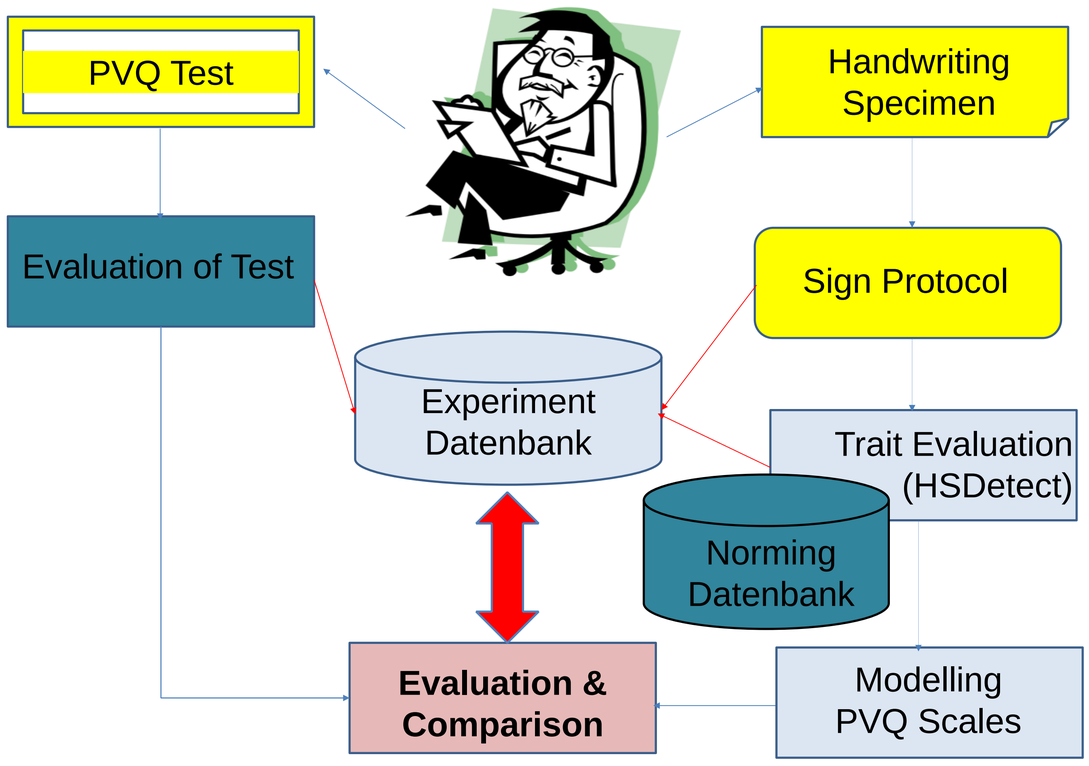
X_i – level of i-th sign
y – level of a trait
c – confidence
v – value of the trait

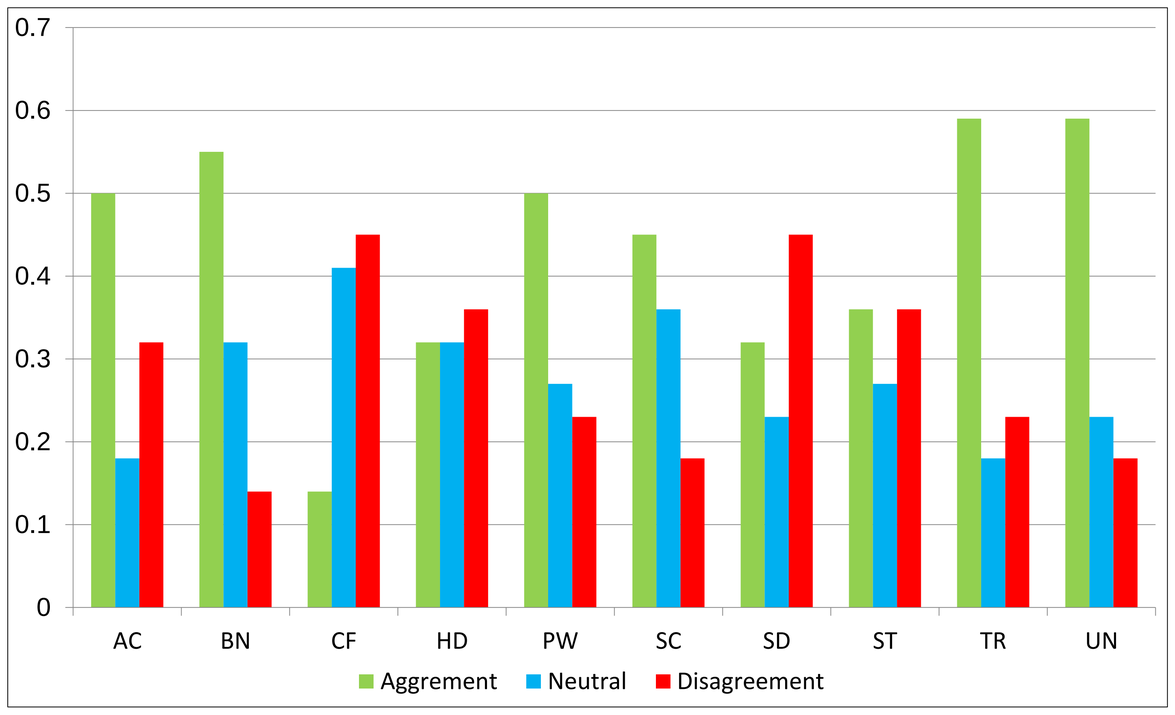
$$p = f(b_1 \cdot y_1, \dots b_m \cdot y_m)$$

p – value of a PVQ scale
y_i – traits that form the PVQ scale

HSDetect validated against
16PF, NEO-FFI, D2, EQ-i 2.0

Experiment





Result

1. For 5 scales (AC, BN, PW, TR, UN) the agreement between two tests is statistically significant with p=0.05
2. No scales with statistically significant disagreement