

## REACH BRIEFING

Date: 20 September 2019

REACH Consulting Services (RCS) and the OrgDev Institute (ODI) collaborated to study convergent validity as demonstrated with the REACH Profile. The scales (styles and dimensions) reported by the REACH Profile were analyzed for association with temperament traits emerging from research by biological anthropologist, Dr. Helen Fisher. Findings from Dr. Fisher’s research assert that such traits are linked with an expression of specific neurotransmitters (brain chemical systems), namely: dopamine, testosterone, estrogen/oxytocin and serotonin.

- ODI gathered responses from 213 training participants who completed the REACH Profile and the Fisher Temperament Inventory, a survey of temperament traits based on Dr. Fisher’s research.
- The REACH Profile is designed to convey a psychometric assessment of preferences and tendencies among four distinct profiles: Counselor, Coach, Driver and Advisor. These profiles emerge from the interaction of two aggregated styles and their respective dimensions: Relating style and Achieving style.
- Of particular value in demonstrating convergent validity is the correlation between reported scores across the two assessments. The following table reveals the correlation coefficients between the REACH Profile scales and Fisher temperament traits (n=213).

REACH Style	Fisher Temperament Inventory Scales			
	Dopamine	Testosterone	Estrogen/Oxytocin	Serotonin
Achieving Style	.60**	.40**	-.10	-.18**
Relating Style	.20**	-.26**	.35**	-.01
<b>REACH Dimension</b>				
Intensity	.19**	.28**	-.08	.22**
Assertiveness	.44**	.45**	-.19**	.45**
Risk Tolerance	.55**	.35**	.00	-.19**
Adaptability	.52**	.09	.02	-.38**
Decision-making	.25**	-.18**	.05	-.42**
Affiliation	.18**	-.01	-.02	-.09
Openness	.16*	-.21**	.34**	-.05
Consideration	.14*	-.27**	.42**	.03
Status Motivation	-.12	-.06	-.13	-.07
Self-protection	.01	-.18**	-.13	-.19**

\* 95% Confidence Level \*\* 99% Confidence Level

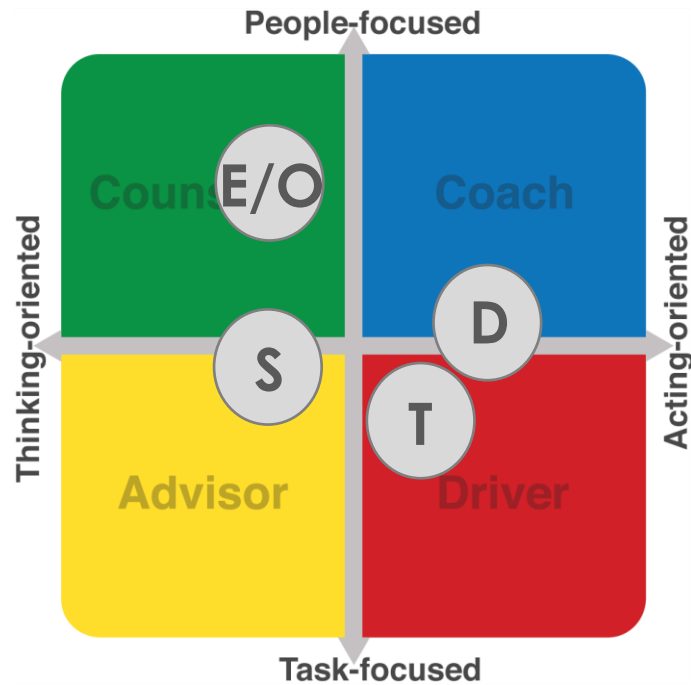
- Based on the correlation coefficients presented above, it appears there may be a number of significant associations between scales measured by the two assessments.

- Participants expressing the Dopamine system more readily or more frequently than the other brain systems may tend to align with a more urgent Achieving style and a more expressive Relating style, as well as with specific dimensions of the REACH Profile. Participants expressing the Dopamine neurotransmitter may tend to be described by the REACH Profile as:
  - more intense than measured
  - more confident than reflective
  - more bold than cautious
  - more flexible than consistent
  - more intuitive than analytical
  - more social than independent
  - more open than private
  - more nurturing than objective
- Participants expressing the Testosterone system more readily or more frequently than the other brain systems may tend to align with a more urgent Achieving style and a more guarded Relating style, as well as with specific dimensions of the REACH Profile. Participants expressing the Testosterone neurotransmitter may tend to be described by the REACH Profile as:
  - more intense than measured
  - more confident than reflective
  - more bold than cautious
  - more analytical than intuitive
  - more private than open
  - more objective than nurturing
- Participants expressing the Estrogen/Oxytocin system more readily or more frequently than the other brain systems may tend to align with a more expressive Relating style, as well as with specific dimensions of the REACH Profile. Participants expressing the Estrogen/Oxytocin neurotransmitter may tend to be described by the REACH Profile as:
  - more reflective than confident
  - more open than private
  - more nurturing than objective
- Participants expressing the Serotonin system more readily or more frequently than the other brain systems may tend to align with a more methodical Achieving style, as well as with specific dimensions of the REACH Profile. Participants expressing the Serotonin neurotransmitter may tend to be described by the REACH Profile as:
  - more intense than measured
  - more confident than reflective
  - more cautious than bold
  - more consistent than flexible
  - more analytical than intuitive
  - more skeptical than trusting

- Participants' responses were categorized based on the brain system reported as most dominant by the Fisher Temperament Inventory. The following table shows participants' average scores for each REACH Profile scale based on the four neurotransmitters.

Fisher Temperament Inventory Scales				
REACH Styles	Dopamine	Testosterone	Estrogen/Oxytocin	Serotonin
Achieving Style	71.45	62.81	37.42	36.86
Relating Style	51.21	43.27	76.79	47.58
REACH Dimensions				
Intensity	70.74	67.65	49.74	63.47
Assertiveness	71.36	72.15	41.05	52.77
Risk Tolerance	80.71	75.00	55.47	45.05
Adaptability	74.67	52.85	47.53	35.91
Decision-making	81.67	70.19	80.79	62.42
Affiliation	48.93	58.35	68.16	49.61
Openness	62.31	56.50	82.53	56.35
Consideration	48.74	45.65	78.11	47.73
Status Motivation	51.07	56.85	54.89	57.86
Self-protection	65.17	55.38	61.32	58.44

- Based on the scores reflected in the table above, the following graphic depicts the average placement of each brain system preference on the REACH Profiles Matrix (where D = Dopamine, T = Testosterone, E/O = Estrogen/Oxytocin and S = Serotonin).



Participants' results on both assessments were compared categorically, with the following tendencies noted. Specifically, participants more expressive of the:

- Dopamine system may tend to align more readily or more often with the Coach profile. According to Dr. Fisher, expected tendencies may include "exploratory behavior, thrill, experience and adventure seeking, susceptibility to boredom and lack of inhibition. Enthusiasm has been coupled with variations in the dopamine system, as have lack of introspection, increased energy and motivation, physical and intellectual exploration, cognitive flexibility, curiosity, idea generation and verbal and non-linguistic creativity."
- Testosterone system may tend to align more readily or more often with the Driver profile. According to Dr. Fisher, expected tendencies may include "heightened attention to detail, intensified focus, and narrow interests...emotional containment, emotional flooding (particularly rage), social dominance and aggressiveness, less social sensitivity..."
- Estrogen/Oxytocin system may tend to align more readily or more often with the Counselor profile. According to Dr. Fisher, expected tendencies may include "empathy, nurturing, the drive to make social attachments and other prosocial aptitudes, contextual thinking, imagination, and mental flexibility."
- Serotonin system may tend to align more readily or more often with the Advisor profile. According to Dr. Fisher, expected tendencies may include "sociability, lower levels of anxiety, higher scores on scales of extroversion...conformity, orderliness, conscientiousness, concrete thinking, self-control, sustained attention, low novelty seeking, and figural and numeric creativity."
  - Source: What scientific concept would improve everybody's cognitive toolkit? Temperament Dimensions. By Helen Fisher. <https://www.edge.org/response-detail/10528>

The findings reported herein suggest that the primary styles with which participants exercise influence over others (whether in the workplace or in other settings) may reflect certain temperament traits. And, these traits may be influenced by specific brain systems, derived from the expression of four neurotransmitters: dopamine, testosterone, estrogen/oxytocin and serotonin. These findings offer meaningful contributions for our understanding of how styles are formed, how they are applied and how they may be developed intentionally. Further, these findings suggest that styles tend to be consistent and observable because they may be linked to underlying biological factors known to be fairly stable over time. Studies such as these promote a greater recognition of biological factors that shape how participants exercise influence over others and respond to the influential efforts of others. Finally, these findings suggest that a participant's tendency toward a certain style of influence may go well beyond a simple preference, with significant implications for coaching, training and leadership development.

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