

**HOW OVERLAYING META-PROGRAMS WITH PSYCHONEUROIMMUNOLOGY
ARCHETYPES CAN PROVIDE A NEW MODEL FOR PINPOINTING POSSIBLE DISEASE
CREATING MIND STATES.**

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ABSTRACT

Objectives

This study integrates clinical research from the field of psychoneuroimmunology (PNI), with Weinberg's PNI model (which correlates personality profiles or archetypes and their associated somatic manifestations) and meta-programs / thinking patterns from the field of coaching to determine if specific meta-programs are positively correlated with identifiable pathology.

Methods

A quantitative, survey based methodology was employed. A total number of 69 respondents self completed on-line questionnaires to generate their meta-programs and PNI archetype. These results were analysed by correspondence analysis and deviation analysis to determine if there was a pattern of meta-program association per archetype.

Results and Conclusions

Different meta-programs were strongly associated with each archetype, thus proving the hypothesis that running specific meta-programs is positively correlated with development of identifiable pathology. A clear description emerged of each archetype's profile and a model developed for use by coaches and applied PNI practitioners that describes the association between meta-programs, PNI archetypes and their associated pathology.

Key words :

Psychoneuroimmunology, meta-programs, pathology.

INTRODUCTION

The foundation for this study is the field of Psychoneuroimmunology (PNI). Freund (2006) borrows from the National Library of Medicine in defining the term as “the field concerned with the interrelationship between the brain, behaviour and the immune system”. The Encarta World Dictionary definition goes one step further and includes the effect emotions have on health by defining PNI as “ a branch of medicine concerned with how emotions affect the immune system” (ibid, pxi).

As a meta-coach, I found these definitions lacking because they exclude the dimension of thought. The Lazarus theory of Emotion postulates that a stimulus in the external environment triggers a cognitive appraisal followed by an emotional and physiological response. If so, then could it be true that that the starting point for physiological changes (and resultant pathology) is thought, not emotion.

Thus, as coaches we could have a powerful mediating influence on the development of pathology. How ? Well, we understand the process of creating frames of thought and how to facilitate optimal re-framing. Thus, if a link exists between thinking and disease causation, we could offer tremendous value to complementary health care.

- Firstly, even if a coach has no knowledge of the neurochemistry or theory behind PNI, they would be able to identify if a client was exhibiting a cluster of meta-programs associated with a disease causing mindstate. By coaching them to modify their thinking patterns, there would be a resultant change in mindstate, and the accompanying neurochemistry.
- Secondly, when coaching a Client who is already ill, the coach would be able to identify what meta-programs are associated with the client's disease, and then coach flexibility and modification to those specific programmes. This too would result in a changed mindstate coupled with positive neurochemical changes.

TERMS OF REFERENCE, OBJECTIVES AND LITERATURE REVIEW

In terms of the contemporary medical model, disease states reflect pathology that occurs at the tissue, organ or system level. The conventionally accepted aetiologies include :

- Developmental
- Traumatic
- Toxic
- Infective
- Inflammatory
- Neoplastic
- Degenerative
- Genetic

Conspicuously absent from this model is the influence of mind states on the aetiology and progression of the disease state. It is my view that the field of PNI is not in contradiction with the medical model, but rather that the field of healthcare could be expanded to include PNI in a 'both-and' approach. Not only has clinical research shown a direct correlation between negative mind states and the corresponding neurochemical (and resultant immunological changes), but when PNI is viewed through the lens of being complementary to the traditional medical model, we can understand the influence of mind states no matter what the aetiology. A negative (helpless-hopeless) mindstate retards recovery, whereas a positive mindstate speeds up the rate of recovery and mitigates against secondary complications like depression and chronic pain. (Robles et al. 2005).

While it is acknowledged that mind states have little influence on developmental, traumatic and toxic aetiologies, they have been shown to play a significant role in infective, inflammatory, neoplastic and degenerative aetiologies. A case in point arguing against Koch's Germ Theory¹ resulted in one of Koch's critics ingesting a glass of water laced with *vibrio cholerae*² and remaining completely disease free. (Di Rita 2000).

A further challenge to the conventional medical model arises from the study of epigenetics³. The fundamental principle underlying epigenetics contends that environmental influences

¹ Robert Koch designed a series of four criteria (Koch's postulates) to establish a causal link between a microbe and disease. Whilst Koch applied his postulates to establish the infective aetiology of anthrax and tuberculosis, they have since been generalised to other disease.

² *Vibrio cholerae* is the bacterium that causes cholera

³ Epigenetics is the study of changes in phenotype (appearance) or gene expression caused by mechanisms other than changes in the underlying DNA sequence (Beger et al, 2009)

impact on the cell membrane and influence genetic expression or suppression. This manifests as disease states which may also be genetically transmissible. Consequently whilst certain diseases like Huntington's chorea and cystic fibrosis are the result of one faulty gene, today's lifestyle diseases like "diabetes, heart disease and cancer ... (are the result of) complex interactions between multiple genes and environmental factors." (Lipton, 2005).

Nijhout (1990) argues that "When a gene product is needed, a signal from the environment, not an emergent property of the gene itself, activates expression of that gene." Lipton (2005) further states that environmental changes are picked up by the cell's membrane receptors, and that the cellular membrane is the true brain that controls cellular life.

A landmark case study arguing the theory of epigenetics using mice carrying the 'agouti' gene⁴ was conducted by researchers at Duke University (Waterland and Jirtle, 2003). Prior to conception, the control group were fed a diet rich in methyl-group supplements, with the result that the methyl-rich donors were passed from the mothers through the placental barrier into their offspring, resulting in slim, brown mice. Although the agouti gene was passed to the offspring, the prevailing environment resulted in its deactivation, and the resultant offspring were free of diabetes.

The Literature Review that follows challenges the conventional aetiology of inflammatory, neoplastic and degenerative pathology and the development of PNI theory.

Although the term PNI was not coined until the mid 1970's by Robert Ader, one of the first observers of how psychosocial factors influence immune function was Viktor Frankl, who was both a psychiatrist and neurologist. He describes in his book "Man's Search for Meaning" (2004) how whilst he was interned in a concentration camp, he observed a mind state of despair, which preceded the development of disease by his fellow inmates. His theory that a hopeless-helpless mind state could give rise to a chemical process which suppressed immunity was subsequently proven by Ader (1975) through his conditioning experiments on rats using cyclophosphamide and saccharine.

Subsequent research by Robles, Glaser et al (2005) has clarified neurological, endocrine and immune involvement, such that we now know that certain predisposing emotional states like depression, anxiety and chronic stress give rise to an increase in pro-inflammatory cytokine production (specifically Interleukin-1, Interleukin-6 and Tumour Necrosing Factor Alpha (TNF-

⁴ The Agouti gene is responsible for the yellow obese syndrome in mice and can influence two or more independent characteristics including yellow fur, maturity-onset obesity, hyperinsulinemia, insulin resistance and hyperglycaemia. (Miltenberger et al, 1997)

a), as well as resultant decreases in the neurotransmitters serotonin and dopamine, and an increase in noradrenalin.

Clinical research in the late 1990's and early 2000's shows a direct relationship between negative mind states, increased proinflammatory cytokines (PIC's), suppressed natural killer (NK) cell activity and the increased occurrence of carcinoma (melanoma). In addition, and of particular significance to this project, a statistically significant correlation has been shown between emotional states as well as life and social situations with personality types and immune system manifestations. (Heffner et al. 2002)

Some of the results of the increase in PIC's include increased joint & bowel inflammation, predisposition to the development of type 2 diabetes, suppression of cardiac contractility, contribution to the development of osteoporosis, arthritis, immuno-suppression and sickness behaviour. (Robles et al. 2005)

The PNI influence can be appreciated in context when reviewing a condition such as diabetes. There are two forms of diabetes, type one and type two. Type two diabetes usually follows obesity; insulin resistance occurs initially and thereafter, diabetes.

However, in a significant percentage of diabetics there is a clear genetic predisposition. The aetiology of type one is the loss of the insulin-producing Islets of Langerhans in the pancreas. This is believed to be due to an autoimmune reaction against the islets and is presumed to follow on from a viral infection. The antibodies made against the virus then turn on similar antigen-bearing islet cells.

As discussed above, it has been shown that a negative PNI mind state gives rise to raised levels of cortisol as well as pro-inflammatory cytokines, both of which are significantly diabetogenic.

It follows that appropriate intervention designed to move an individual into a resourceful mind state would have a significant effect on the disease causation and outcome *in the face of a genetic predisposition*. In terms of the viral aetiology of type one, PNI intervention would diminish the incidence of the precipitating viral infection through the enhancement of immune function.

Alongside the PNI research was work done by neuroscientist, Candace Pert, who chronicled her groundbreaking research on neuropeptides in her book "Molecules of Emotion" (1997). She found that the largest concentration of neurotransmitters⁵ and their receptors are within

⁵ A neurotransmitter is a chemical found in the brain that transmits nerve impulses from one neuron to the next across the synapse

the so-called limbic system which is traditionally regarded as a system of functionally related neural structures in the brain that are involved in emotional behaviour.

However, what she discovered is that these chemicals are not restricted to the brain but are found throughout the body; that “*chemical information substances travel the extracellular fluids circulating throughout the body to reach their specific target-cell receptors*” (p140). She explains that because neuropeptides and their receptors are found in the body as well as the mind, that the “mind is in the body “(p188); that at the molecular level, the body is in fact “a mobile brain” (ibid).

Weinberg (2006) took the next step, matching emotion with disease. He collated the research of Kiecolt-Glaser, Robles, Appels, Bar et al and others and rationalised life circumstances, emotional states and personality types into three quantifiable groups or archetypes. Each archetype represents a personality profile and its corresponding somatic manifestation.⁶ Further, Weinberg developed a diagnostic in the form of a self-completion questionnaire to identify an individual’s particular archetype.

Meta-coaching, is a coaching methodology, which amongst other key features, uses the existence of meta-programs to identify thinking patterns. A meta-program is a perceptual filter that we use to structure our thinking patterns. “They operate at a level meta to (or above) our content thinking and so refer to the sorting devices we use in perceiving, paying attention to things, and inputting and processing stimuli” (Hall 2005). The one most people are familiar with is the optimist/pessimist pattern. Used with reference to the half full / half empty glass, the content within the glass is exactly the same, but a person’s perception will differ dependant on which meta-program they prefer. In Meta-coaching, not only are 61 such patterns tracked to help Clients understand the lenses (or glasses) through which they view the world, but the development of flexibility and intentional installation of meta-programs to maximize potential is facilitated.

Reference was made earlier to the association between thoughts and emotion, in particular to the Lazarus theory, which states that when a stimulus in the external environment occurs, a cognitive appraisal is made, based on which an emotional and physiological response follows.

⁶ PNI Archetypes - derived from The Triangles Model (Weinberg, 2004)

Alpha - characterised by a non-judgemental perception of the environment and high vitality.

Bravo - fear-driven and is generally highly ambitious but insensitive; is associated with cardiovascular disease, obesity and diabetes.

Charlie - characterised by a hopeless-helpless mind-state and has the lowest PNI resilience. This archetype is associated with the development of chronic inflammation, infections, auto-immune disease and tumours.

This led to questioning the starting point of the PNI theory. Is it the emotion that triggers the neurochemical and immune changes? Or could it be the thinking pattern (meta-program) which gives rise to the emotion that is the trigger? If an association is found between meta-programs and disease, then by employing Meta-coaching principles, these meta-programs can be changed, and hence the neurochemistry preceding the disease pattern would be altered.

So, changes in neurochemistry, with the resulting changes in neurotransmitters and hormones would effect changes on the cell's environment, which could change the genetic expression of the cell. This theory, known as epigenetics has already been discussed. At a more fundamental level, changes in thinking patterns would give rise to changes in behavioural patterns, promoting more optimal lifestyle choices. Using the type two diabetes example again, this could lead to modified behaviour mitigating against obesity.

In order to test this theory, it was necessary to investigate if there is a link between meta-programs and certain types of disease. Because the grouping work on mind states and disease had been done by Weinberg, what was required was to take an individual whose meta-programs were known, establish their archetype via Weinberg's diagnostic, duplicate the investigation quantitatively and determine if a pattern exists.

Hence, the aim of this project was to overlay meta-programs with Weinberg's three PNI archetypes to determine if there is a correlation between meta-programs and identifiable pathology. Eight research objectives were designed to achieve the aim, and are referred to in this text. If required, these can be supplied.

METHODOLOGY

APPROACH

One of the research objectives was to establish if the 3 PNI archetypes have any strongly associated meta-programs. Hence, a quantitative approach was selected in order to generate objective standardised data, from a relatively large number of individuals, which could be statistically analysed. This would also allow for future replication, if required. As stated by Leedy (1980 p97), "The nature of the data dictates the research methodology ..."

This view is endorsed by Clarke (2002) who argues that quantitative techniques provide numeric data suitable for statistical analysis which would allow for hypothesis testing, which is another of this study's objectives. This approach would also augur well for credibility and generalisation purposes, as one of the project objectives was to develop a predictive model to be used in practice.

One of the possible weaknesses of a quantitative approach is that it can take human behaviour (motivation, opinions and attitudes) out of context. A qualitative approach would have resolved this issue, and may have provided interesting data rich in explanation. However it was not a requirement of this study to provide insight into human behaviour. In addition, whilst a qualitative approach may have eventually yielded the desired numbers of data, this would have been an unwieldy approach time-wise and would have generated data irrelevant to this study. Finally, there is a possibility that the data generated by a qualitative approach may not be objective or standardised and this would have affected the study's validity. Thus, a qualitative approach was rejected.

METHODOLOGY

A survey methodology was selected in order to explore a relatively large amount of information and the relationships between the multiple variables. As discussed by Trochim (2006), the decision as to which type of survey is selected is often made by critically considering the relative merits of the different types.

An interview approach was excluded as this approach is often more suited to establishing opinions, attitudes and beliefs via open-ended questions and interviewer participation. The interview approach and administered questionnaire are also fairly time-consuming. Hence, a survey methodology, making use of an on-line self-completion questionnaire was selected to generate the required quantitative data in as time-and-cost efficient a manner as possible. (Walonick, 1993)

While it is a cost effective and fast method of distributing a survey, Action research was dismissed as this project is not attempting to change behaviour or develop a practice; rather it seeks to understand thinking that precedes neurochemical changes. Similarly, a soft systems methodology was also rejected as the aim of this project is not to identify a problem and propose changes but rather seeks to understand the relationship between variables.

Whilst informal observations made in practice were the starting point for the studies that have culminated in this project, formal case studies would not have generated the data required for statistical analysis. Indeed, any conclusions could have been viewed as anecdotal in nature and unsuitable for generalisation purposes. In addition, due to the fact that these case studies would have been based on Clients seen in practice, the findings could have been subject to researcher and sample bias. Ethnography was also precluded on the basis of sample size, and the qualitative data it would have generated, but more specifically because this project does not seek to understand group dynamics or behaviour.

Whilst an experimental methodology could have provided numeric data, it was not a concern of this project to understand cause and effect on behaviour, and was hence excluded as an option.

DATA COLLECTION TECHNIQUES

As noted above, data collection via questionnaire was selected in order to generate relatively large numbers of factual, standardised data that could be subject to statistical analysis, and would allow for generalisation of results if the study was deemed to be statistically valid.

It was a requirement of this study that the statistical relationships between the variables (i.e. meta-programs and PNI archetypes) be analysed, and utilising a questionnaire/s permitted this. In addition, using a questionnaire increased the possibility of generating larger numbers of data, and allowed for wide geographic coverage. This technique is relatively low cost and has a relatively fast turn around time, in that results are available within months, rather than years. In addition, the possibility was allowed for that this study, dependant on the eventual sample size, may be used as a pilot study, or that it could be replicated if required. Additional benefits of using this data collection technique include the exclusion of interviewer bias and the possibility of respondent anonymity, which was of relevance due to the personal nature of the data that was collected.

Possible disadvantages of using a questionnaire for data collection include the fact that respondents may want to portray themselves in a good light, and hence may not answer truthfully. In order to avoid confusion, the questions asked must be simple. In the case of self-completion questionnaires there is the possibility of incomplete questionnaires being returned

and misunderstanding if the question is not clearly phrased. In addition there may be a need for reminders which could be time-consuming, and there is a risk of a low rate of response.

In order to limit these possible disadvantages the existing questionnaires were critically examined, checking for question clarity and simplicity. Although truthful answering could not be checked, the questionnaires did not allow for completion if all the questions had not been answered.

Interviews were excluded as a possibility as they would have yielded qualitative data, which was not a requirement of this study. Likewise, although informal observation is a natural part of a coach's role, formal observation would have recorded and analysed behaviour of a qualitative or descriptive nature, whereas numeric data was required to allow for analysis between the variables.

One of the research objectives was to profile an individual's PNI archetype. Weinberg's PNI diagnostic was selected for this purpose. It takes the form of a self-completion, on-line questionnaire and generates a report detailing the PNI archetype amongst other data. The questionnaire is medically accredited by The Health Professions Council of South Africa, and produces consistent standardised data. Although it was convenient that the questionnaire had been validated and was in use, it was still critical to review the instrument to determine if the design criteria were advantageous for producing quality data. On examination, the design was found to be optimal as questions were simple, short, clear and closed-ended. A multiple-choice format was used throughout, and there were no open ended or leading questions. The questionnaire took approximately 30 minutes to complete, hence was of a suitable length. As a result of the critical analysis, the questionnaire in its existing form was selected to profile the PNI archetypes.

It was also a project requirement to investigate how to profile an individual's meta-programs, and secondly, to determine if any such profiling tools had already been developed. The Identity Compass Profile (ICP) generates this data and after contacting the developer in Germany, a critical review of the questionnaire was conducted. The ICP is a self completion questionnaire, consisting of concrete closed questions and on completion provides a report detailing the individual's preferred meta-programs. These criteria met the requirements in that standardised data would be yielded by the questionnaire, thus it was selected for use, thereby negating the need to develop a questionnaire.

ETHICAL / CONFIDENTIALITY ISSUES

Before commencement of the project, approval was duly applied for and granted by The Human Research Ethics Committee at The University of the Witwatersrand (Wits University) as the study was conducted in South Africa. This was in addition to approval by The University of Middlesex's WBL Ethics Committee, as the study formed part of an academic programme conducted through that University.

The report generated by the ICP states a random number for the respondent which is allocated when the questionnaire is completed. This unique number was used to identify each respondent when they completed the PNI questionnaire, thus ensuring confidentiality

DATA COLLECTION

When collected, the ICP data would be classified as secondary data, whilst the PNI data that still needed to be collected via fieldwork, was classified as primary data. In order to collect the secondary data, it was not only informed consent that was required also the respondent's willingness to complete a PNI diagnostic.

Before the data was collected a covering letter outlining the nature and value of this project was e-mailed to all prospective respondents who had completed an ICP requesting their participation in this study. Attached to this e-mail was an informed consent form. On receipt of their signed informed consent form respondents were e-mailed the self completion PNI diagnostic, which when completed was released along with the ICP data.

SAMPLING

Due to the fact that the criterion for selection was that an individual had to have completed an ICP, it could be argued that a type of non probability sampling, called convenience sampling was used as a sampling strategy. Once this sample had been defined, all respondents who had completed an ICP were invited to participate further in generating the primary data if they had not done so already.

Whilst convenience or 'available' sampling does not allow for statistical generalisation, theoretical generalisation is still possible using this sampling strategy (Robson 2002). Indeed, "proponents of the available sample procedure claim that if a phenomenon, characteristic, or trait does in fact exist, it should exist in *any* sample" (Wimmer & Dominick, p 60)

Although demographic quotas of race and gender were not applied, the population that was sampled was heterogeneous in nature and a cross section of race and gender resulted.

Table 1

Demographic sample distribution

Black Males	White Males	Black Females	White Females
10	28	8	23
55% Male		45% Female	

n = 69

During the analysis phase the data was further subjected to stratified sampling in that 3 segments (the 3 different archetypes) were defined, and each segment was subject to the same statistical analyses.

PROJECT FINDINGS

CREATING A DATA SET

Prior to data analysis, a data set was created. Raw data was obtained from the results of the ICP and PNI questionnaires. Each ICP questionnaire yielded 50 meta-programs per respondent and each PNI questionnaire yielded 1 archetype per respondent. The final sample consisted of 69 respondents who had completed both questionnaires. (See Appendix A, pp.30-34 for raw data tables)

The raw data was entered into a data programme called Survey Systems. Apart from offering statistical analyses, this programme also includes a number of checks and balances to mitigate against data capture error. An alternative method of capturing data would have been to scan it electronically, however this was not justified due to the small sample size.

In order to finalise the data set, the data had to be cleaned. However, even before the raw data was captured, it had gone through a process of cleaning. Both questionnaires have a built in feature where a report will not be generated if all questions have not been correctly answered.

COMBINING THE ARCHETYPES

Although this project refers to 3 archetypes, namely Alpha, Bravo and Charlie, there are in fact 2 cross-over archetypes that the PNI questionnaire generates, namely Alpha/Bravo and Bravo/Charlie. The PNI diagnostic generates a score in one of these 5 categories.

In order to maximise the data and keep the archetypes pure, I consulted with the developer of the PNI diagnostic and decided to combine Bravo/Charlie and Charlie; likewise Alpha/Bravo and Alpha, with Bravo remaining unchanged. The 2 crossover categories were originally included to maintain continuity of data when the diagnostic was developed. However, due to the large numbers of data and case studies that have been collected over the years, it is now accepted that Bravo/Charlie is in fact deemed to be Charlie and Alpha/Bravo deemed to be Alpha.

This decision also fulfilled a research objective, which was to ensure that sample size was sufficiently large enough to include respondents from all 3 archetypes. Consequently, the final data set was comprised of raw data in the form of absolute scores per respondent by meta-program per pure archetype. An excerpt from the final data set is shown below. The full table appears in Appendix B, pp.35-36.

Table 2

Excerpt from raw data : Absolute scores per archetype per meta-program

	Charlie (n=17)	Bravo (n=40)	Alpha (n=12)
Comparison: Difference	73.2	72.6	71.3
Comparison: Sameness	78.8	69.8	64.2
Information Size: Details	71.8	63.9	63.3
Information Size: Global	87.4	82.9	85.8
Level of Activity: Pre-Active	72.7	66.8	65.0
Level of Activity: Re-Active	80.6	73.9	73.8
Reaction: Match	83.8	73.4	72.9
Reaction: Mismatch	61.5	59.4	59.2
Success Strategy: Realisation	80.0	76.5	79.6
Time Frame: Long-term	70.9	69.8	69.6
Time Frame: Short-term	74.4	69.6	67.9
Time Orientation: Future	77.1	75.4	73.8
Time Orientation: Past	76.2	65.8	67.5
Time Orientation: Present	79.1	71.0	72.5
Work Orientation: Relationship	79.4	67.3	69.6
Work Orientation: Task	74.4	72.8	69.2
Working Style: Individualist	63.5	63.3	57.9
Working Style: Team-player	74.7	62.8	59.6

CORRESPONDENCE ANALYSIS

In order to look at the relationship between the multiple variables viz. the rows of meta-programs and the columns of archetypes, the data was put through a multivariate exploratory data analysis technique called Correspondence Analysis. This allowed for simplification of the data to be analysed in respect of the interrelationship between the variables.

One output of the correspondence analysis was a data table; a second output was a correspondence map which was generated to provide a visual map of the information.

The data table was interpreted first. Raw scores per archetype were ranked and on initial investigation, it appeared that the Charlie archetype had the highest association with the majority of meta-programs. (78% or 39/50 statements to be exact)⁷. I questioned why this archetype consistently scored significantly higher than the other archetypes. In fact the

⁷ Appendix B Table B2 (pp.37-38) highlights the high Charlie association scores; they can also be identified from the data in Table 2, above.

Charlie archetype even scored higher on the meta-programs where it was negatively associated with the meta-program.

For example, the meta-program of 'difference' was most highly associated with Charlie. This meta-program explains how an individual works with information and change. Due to the low area of environmental integration with which Charlie is associated, this archetype does not seek out change, but prefers the environment to remain the same, or unchanged. They do not value change, variety and newness but rather seek out similarity and stability. (Hall 2005, p108) (Weinberg 2006, p33)

Likewise, Charlie scored highest on the time frame meta-program of 'future'. This thinking pattern indicates where in time an individual's focus is placed. By definition, the Charlie archetype is rooted in the past, suffers from regret and most certainly does not have a future-based orientation. (Weinberg, 2009, p36)

In addition, many of the associations appeared to be contradictory. For example, Charlie scored highest for both 'sameness' and 'difference', 'match / mismatch', 'details / global' amongst others. These are opposite poles of their respective meta-programs (Hall, p108)

It was apparent that additional data analysis was required to make sense of the information, and whilst the correspondence analysis was providing insight *into how closely the data was inter-connected*, it did not explain the differences in the data.

DEVIATION ANALYSIS

It was thus decided to perform a deviation analysis to eliminate the Charlie halo effect and determine how far apart – or how different the archetypes are to each other. Thus, it was not the strength of the attribute that I wanted to measure, but the profile of the archetypes relative to each other.

It was also important to examine the positive as well as negative associations per archetypes to fully comprehend the differences between the 3 archetypes. The association (raw scores) relates to the ability of the archetype to attract a meta-program whereas the deviation profiles what makes them different.

Using the deviation analysis, the differences between the 3 archetypes became apparent and concurred with prior informal observations and past PNI case studies. For example, Charlie respondents may believe they embrace 'difference' but relative to the Bravo profile, they do not. Likewise, although the Charlie archetype scored highest in terms of absolute figures on

the meta-program ‘success strategy: realization”, when analysed via the deviation analysis it is apparent that this variable is in fact most closely associated with the Alpha archetype

In an attempt to understand these discrepancies, it is worth re-stating that the Charlie archetype is characterized by a hopeless-helpless mindstate and low ego-strength which does not bode well for facing reality. Thus, the Charlie respondents may have simply scored themselves higher across all attributes due to an inability to perceive reality correctly or in an attempt to feel better about themselves. The deviation analysis removes the possible effect of false scoring.

Full deviation results per archetype appear in Appendix C, pp.40-41. A sample of the Charlie deviation from +2 upwards, and -2 downwards appears below.

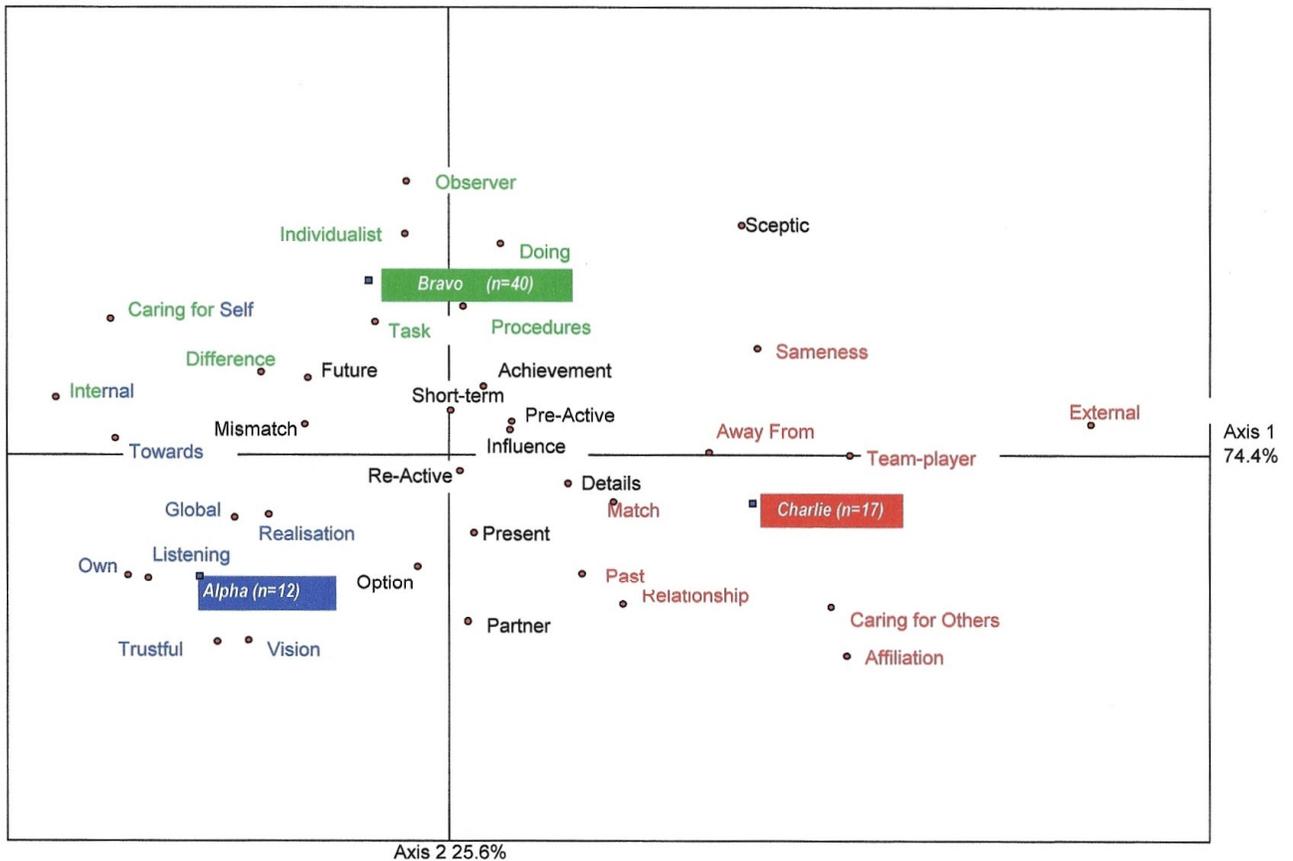
Table 3 :
Charlie Deviation analysis

	Charlie (n=17)	Bravo (n=40)	Alpha (n=12)
Reference: External	7.9	-1.6	-6.3
Primary Interest: Places	6.9	-1.6	-5.3
Primary Attention: Caring for Others	5.4	-3.5	-2.0
Working Style: Team-player	5.1	-1.4	-3.8
Motives: Affiliation	5.0	-3.6	-1.4
Primary Interest: Things	4.7	0.9	-5.7
Comparison: Sameness	3.7	0.5	-4.2
Direction: Away From	3.3	-0.9	-2.4
Work Orientation: Relationship	3.0	-3.1	0.1
Sensory Channel: Seeing	2.9	0.4	-3.3
Sensory Channel: Hearing	2.7	-2.8	0.1
Reaction: Match	2.5	-1.5	-1.1
Time Orientation: Past	2.2	-2.4	0.2
Convincer Strategy: Sceptic	2.1	1.9	-3.9
Work Orientation: Task	-2.0	2.4	-0.4
Perspective: Observer	-2.1	4.3	-2.2
Reaction: Mismatch	-2.1	0.8	1.3
Sensory Channel: Feeling	-2.3	3.5	-1.2
Primary Interest: Information	-2.4	0.2	2.1
Success Strategy: Vision	-2.7	-2.7	5.4
Time Orientation: Future	-2.8	1.8	1.0
Convincer Strategy: Trustful	-2.9	-2.4	5.3
Information Size: Global	-3.1	-0.4	3.5
Time Frame: Long-term	-3.4	1.4	2.0
Success Strategy: Realisation	-3.4	-0.3	3.7
Comparison: Difference	-3.4	2.0	1.4
Convincer Channel: Listening	-3.5	-0.8	4.3
Perspective: Own	-3.6	-0.7	4.3
Convincer Channel: Reading	-4.1	2.8	1.3
Primary Attention: Caring for Self	-5.4	3.1	2.3
Reference: Internal	-5.8	2.1	3.7
Direction: Towards	-6.1	1.7	4.5

CORRESPONDENCE MAP

Although the Correspondence map below was generated using absolute data, it mirrors the findings of the deviation data and clearly shows the association of meta-programs by archetype. In order to visually demonstrate the congruent findings, the top ranked meta-programs⁸ from the deviation analysis have been highlighted in a different colour per archetype on the map below. This is an example of data triangulation, where two analysis methods result in similar findings.

Figure 1
Correspondence Map

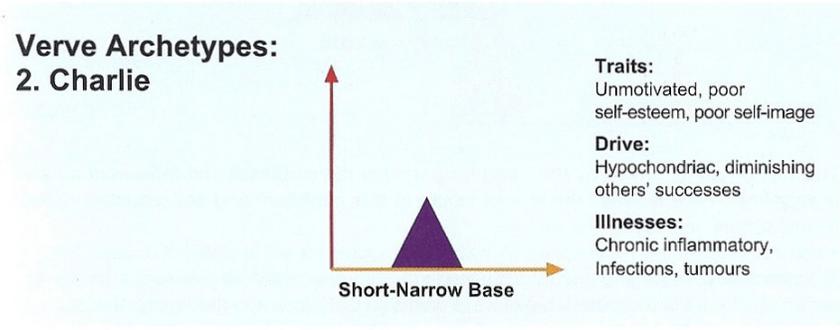


INTERPRETATION OF RESULTS

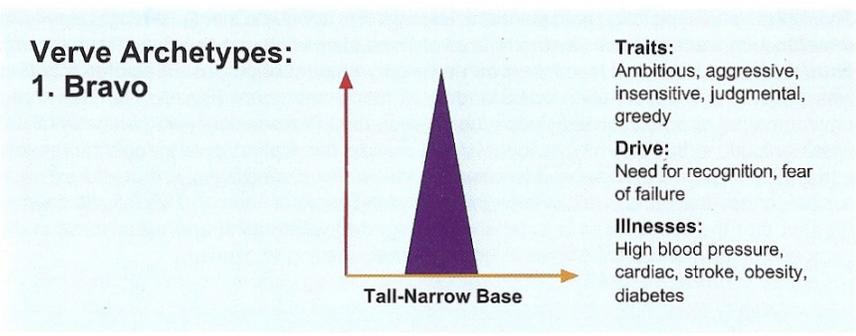
One of the research objectives was to determine if the 3 PNI archetypes have any strongly associated meta-programs. The deviation analysis and correspondence map have determined that there are indeed distinct meta-programs associated with each archetype.

⁸ For the sake of visual clarity, the meta-program categories have been removed in the Correspondence map, with only the descriptor remaining, e.g. the meta-program 'Reference: External' has been simplified to read 'External'

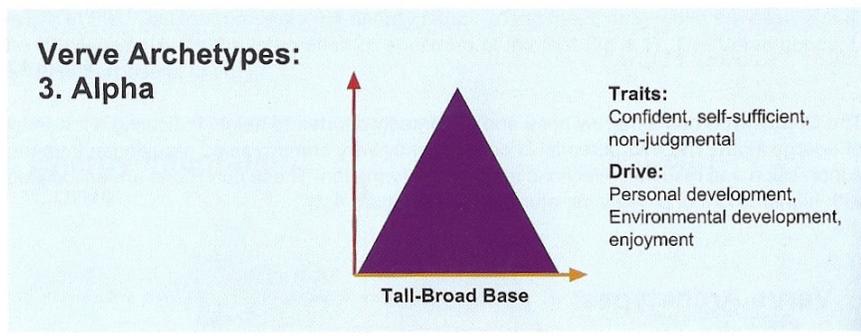
Each archetype was linked with identifiable pathology by Weinberg (2006), who collated the clinical research referred to in the Literature Review of Chapter 2. For the sake of brevity, the following diagrams have been included to clearly define each of the 3 archetypes.



Weinberg (2009 p 24) Figure 4.2



Weinberg (2009 p 24) Figure 4.3



Weinberg (2009 p 25) Figure 4.4

Note: The Y axis represents energy input (meaning, purpose, passion), whilst the X axis represents the individual's spectrum of interest. It is also important to note that whilst the archetypes provide a basis for understanding cognitive processing and behaviour, any

individual can exhibit any of these characteristics depending on the prevailing environment. Whilst it is true that a particular archetype will dominate in general within an individual, it is possible through intervention to change one's archetype.

The section that follows identifies and discusses the meta-programs associated with each archetype⁹, ending with a model that synthesises the connections between meta-programs, archetypes and associated pathology.

THE CHARLIE ARCHETYPE

According to Weinberg (2006), this archetype or configuration is driven by a need for external validation (often via hypochondriasis) and to diminish the success of others, due to their desire need to diminish their own inherent wretchedness. The pathologies of chronic inflammation, auto-immune disease, infections and tumours have been associated with this archetype.

Table 4
Charlie : Ranked Meta-programs

Reference: External	7.9
Primary Interest: Places	6.9
Primary Attention: Caring for Others	5.4
Working Style: Team-player	5.1
Motives: Affiliation	5.0
Primary Interest: Things	4.7
Comparison: Sameness	3.7
Direction: Away From	3.3
Work Orientation: Relationship	3.0
Reaction: Match	2.5
Time Orientation: Past	2.2
Convincer Strategy: Sceptic	2.1

The complete deviation results by meta-program for Charlie can be found on in Appendix C, pp.42-43. To summarise the results, this is an archetype with a strong 'external' locus of control i.e. authority and permission are vested in others, coupled with a strong focus on

⁹ A full list of meta-programs per archetype (as derived from the deviation analysis) appears in Appendix C, pp. 40-41.

Some of the processing styles have been omitted from the discussion due to irrelevance

'others'. This configuration will care primarily for others, putting their own needs second. Not only will Charlie fulfil the needs of 'others' often to the detriment of self, but will do so with conditional or manipulative giving. The meta-program 'team-player' ranks highly for this archetype which is no surprise given the 'external' and 'others' programs. Likewise, this archetype is likely to give priority in a work context to their 'relationship' with people, rather than focus on the task, although they will be 'sceptical' and distrustful of 'others', adopting a, guarded and defensive position. Almost paradoxically however, the 'affiliation' meta-program is strongly associated with 'other', in that this individual will try to create good relationships with others as a success strategy. The strong association with 'things' describes how this archetype will seek meaning and happiness; they will typically value both tangible objects (possessions) and more intangible things like status or rank.

'Sameness' describes how someone views change and variety – in the case of a Charlie archetype, variety or change would be strongly rejected in favour of things staying the same. The association of 'match' correlates well to the 'sameness' preference, in that this individual will match for similarity, and will not search for difference or distinctions. Their motivation is 'away from' in that they will not move towards what they want, but instead prefer to avoid what it is they don't want; in so doing the focus remains on what is undesired. The meta-program of being oriented in the 'past' is known to be strongly associated with Charlie, in that these individuals focus on what went wrong and are subject to feelings of guilt and regret. According to Hall (2005, p245) this pole of the time zone meta-program is often associated with depression, with individuals becoming embittered and believing that the past has imprisoned them.

In an interesting pattern, many of the meta-programs that are strongly associated with Charlie are found to have their polar opposites strongly dissociated. For example, whilst an 'external' locus of control (+7.9) is very strongly associated with the archetype, an 'internal' locus of control is found to be strongly dissociated (-5.8). The meta-program continua have been grouped in the table below.

Table 5
Meta-Program Continua - Charlie

Charlie Associated Meta-Programs		Charlie Dissociated Meta-Programs	
Reference: External	7.9	Reference: Internal	-5.8
Primary Attention: Caring for Others	5.4	Primary Attention: Caring for Self	-5.4
Comparison: Sameness	3.7	Comparison: Difference	-3.4
Direction: Away From	3.3	Direction: Towards	-6.1
Work Orientation : Relationship	3.0	Work Orientation : Task	-2.0
Reaction: Match	2.5	Reaction: Mismatch	-2.1

Time Orientation: Past	2.2	Time Orientation: Future	-2.8
Convincer Strategy: Sceptic	2.1	Convincer Strategy: Trustful	-2.9

Also interesting to note is that the differential proportions between the associated and dissociated meta-programs are fairly similar, except for 'direction', which whilst profiled as 'away from', is twice as strongly dissociated with 'towards', i.e. this archetype is more strongly 'not towards' than 'away from'.

As a result of this insight, a differential analysis was conducted by meta-program for each archetype by subtracting the 2 deviation scores, and highlighting any results above or below a numeric value of '1'. (See Appendix C, p.48) This exercise was conducted to define the attributes most strongly associated with each archetype. In the case of Charlie, those attributes are an 'external' locus of control, motivation which is 'not towards', and a focus on 'relationships'.

THE BRAVO ARCHETYPE

This configuration is driven by a fear of failure, and fulfilment of own needs (Weinberg, 2006). Associated pathology includes cardiac disease, stroke, type 2 diabetes and obesity. Once again, the complete deviation results are to be found in Appendix C, pp.44-45. What follows is a summary of the most salient associations.

Table 6

Bravo : Ranked Meta-programs

Perspective: Observer	4.3
Working Style: Individualist	3.2
Primary Attention: Caring for Self	3.1
Convincer Channel: Doing	3.0
Convincer Channel: Reading	2.8
Work Orientation: Task	2.4
Reference: Internal	2.1
Comparison: Difference	2.0
Planning Style: Procedures	2.0
Convincer Strategy: Sceptic	1.9
Time Orientation: Future	1.8

One of the meta-programs most strongly associated with this configuration is that of the 'individualist', unlike Charlie who is closely associated with being a 'team-player'. Bearing this in mind, it is no surprise that the meta-program 'internal' is also associated with this archetype. This individual would be self-referenced, independent of thought, and make decisions based on what is right for them. This may give rise to exclusionist or black and white thinking with the individual rejecting that which they do not know or understand. This

individual pays attention to 'self', fulfilling their own needs before those of 'others'. This is directly related to the archetype's driver of being fear based and the drive to fulfil their needs in order to survive. Interesting to note however, is the preference of the 'observer' position as opposed to taking the alternate perspectives of own or partner. In Neurolinguistic Programming terms, this is referred to as taking the 3rd position – one that encompasses both one's own views and that one of one's partner. This makes for a position where truth is valued, but when used as a default position may result in emotional detachment.

Like Charlie, this archetype is also positively associated with the dimension of being a 'sceptic'. Unlike Charlie, however, the Bravo archetype is 'future' oriented, in particular, having a fear of the future. The Bravo archetype will focus on the 'task' rather than build relationships, and is more concerned with 'doing' than 'being'. This is a place of active focus, and describes individuals who are performance and achievement oriented which fits with the drivers of this archetype, in that to reduce fear the individual focuses on achieving goals and objectives. Unlike the Charlie archetype, the Bravo will sort for 'difference', embracing change and variety. However, the high association of 'procedures' alerts us to the fact that this configuration prefers to follow specific and definite procedures, as opposed to an 'options' preference which would result in an individual responding with numerous alternatives.

Again, a pattern of opposite poles along the meta-program continua is found with the Bravo deviation scores, allowing for clear definition of the archetype by meta-program. Table 7 summarises the deviations along the relevant continua.

Table 7
Meta-Program Continua – Bravo

Bravo Associated Meta-Programs		Bravo Dissociated Meta-Programs	
Perspective: Observer	4.3	Perspective: Partner	-2.7
Working Style: Individualist	3.2	Working Style: Team-player	-1.4
Primary Attention: Caring for Self	3.1	Primary Attention: Caring for Others	-3.5
Work Orientation: Task	2.4	Work Orientation: Relationship	-3.1
Reference: Internal	2.1	Reference: External	-1.6
Comparison: Difference	2.0	Comparison: Sameness	0.5
Planning Style: Procedures	2.0	Planning Style: Option	-1.8
Convincer Strategy: Sceptic	1.9	Convincer Strategy: Trustful	-2.4
Time Orientation : Future	1.8	Time Orientation: Past	-2.4

The differential analysis (see Appendix C, p.48) revealed that the attributes pulling the definition of this archetype are that of the 'observer' perspective, an 'individualist' style, and the sorting information based on its 'difference'.

THE ALPHA ARCHETYPE

Weinberg's description of this archetype (2006) is an individual driven by personal enjoyment and fulfilment with an awareness of developing their environment and those in it. There is very little fear of failure in this confident and self assured archetype. Pathology is rarely associated with this archetype.

Full results of the deviation analysis for this archetype can be found in Appendix C, pp 46-47. The table below summarises the most strongly associated and relevant meta-programs for this archetype.

Table 8

Alpha : Ranked Meta-programs

Success Strategy: Vision	5.4
Convincer Strategy: Trustful	5.3
Direction: Towards	4.5
Convincer Channel: Listening	4.3
Perspective: Own	4.3
Reference: Internal	3.7
Success Strategy: Realisation	3.7
Information Size: Global	3.5
Primary Attention: Caring for Self	2.3
Primary Interest: Information	2.1
Time Frame: Long-term	2.0
Planning Style: Option	2.0

On analysing the deviation results it is apparent that the meta-programs associated with this archetype describe an individual with a large world view, who is able to work with 'information' and create a 'vision' based on the 'long-term', bringing that vision to 'realisation'. Such an individual would make an excellent leader, and is associated with the meta-programs of 'trust', 'listening' and planning for different 'options'. In addition, this archetype is strongly associated with the meta-program 'global' which refers to the deductive thinking i.e. moving from the big picture down to the detail.

Alpha is strongly associated with an 'internal' locus of control, with the individual knowing what it is that they want and moving 'towards' it, unlike Charlie who tries to move 'away from' what it is that is not desired. When viewed with the fact that Alpha is aware of and fulfils their own needs, the dimension of 'trustful' applies not only to 'others' but also to 'self'.

Whilst there is a degree of polarity within the meta-program continua it is not as strong as the previous two archetypes. This has been summarised in Table 10 below and may indicate more of a continuum thinking style, i.e. less black and white processing. What is of further interest is the strong dissociation of 'doing', as this individual may be more likely to focus on envisioning rather than implementation. The negative deviations on both 'team-player' and 'individualist' could indicate that Alpha may be more balanced in terms of their self-image in the work context than the previous two archetypes. Finally, the strong dissociation of 'sameness' (-4.2) and positive association of 'difference' (at +1.4) indicates that although this configuration does not seek sameness, it is not a default requirement to match for difference, and could be a further indication of balance and multi-dimensionality, which is a hallmark of this archetype.

Table 9
Meta-Program Continua - Alpha

Alpha Associated Meta-Programs		Alpha Dissociated Meta-Programs	
Convincer Strategy: Trustful	5.3	Convincer Strategy: Sceptic	-3.9
Direction: Towards	4.5	Direction: Away From	-2.4
Perspective: Own	4.3	Perspective: Observer	-2.2
Reference: Internal	3.7	Reference: External	-6.3
Primary Attention: Caring for Self	2.3	Primary Attention: Caring for Others	-2.0

The differential analysis reveals that like the Charlie archetype, one of the dissociated meta-programs contributes strongly to the archetype profile. In the case of Alpha, it is the meta-program of *not* being 'external'. The strongly associated attributes are those of being 'trustful', having a 'towards' motivation, and using one's 'own' perspective'. (See Appendix C, p.48 for the differential scores).

APPLICATION / MODEL

Prior to discussing possible application of results, it is worth noting that this study was designed to allow for replication in order to increase the future reliability of the findings. The validity of the findings must be borne in mind against the sample size. Whilst this study allows for theoretical generalisation, for true statistical generalisability and validity, it would be recommended to repeat this study on a larger scale, with random sampling and a target sample size of around 500 respondents.

Thus, having reviewed the three archetypes, their pathology and meta-programs, it is possible to integrate the three areas and overlay the meta-programs with the archetypes and their

associated pathology to create a new model based on using meta-programs to pinpoint possible disease causing mind-states.

This model fulfils a research objective and can conceivably be used in practice to detect sub-optimal mind states to prevent the development of disease or promote the optimal mind state for health. The tables below summarise this information per archetype.

Table 10

Charlie : Meta Program and Pathology Overlay

Meta-Program	Archetype	Associated Pathology
Reference: External Primary Attention: Caring for Others Working Style: Team-player Motives: Affiliation Primary Interest: Things Comparison: Sameness Direction: Away From Work Orientation: Relationship Reaction: Match Time Orientation: Past Convincer Strategy: Sceptic	Charlie	<ul style="list-style-type: none"> - Chronic inflammations - Autoimmune disease - Infections - Tumours

Table 11

Bravo : Meta Program and Pathology Overlay

Meta-Program	Archetype	Associated Pathology
Perspective: Observer Sensory Channel: Feeling Working Style: Individualist Primary Attention: Caring for Self Convincer Channel: Doing Work Orientation: Task Reference: Internal Comparison: Difference Planning Style: Procedures	Bravo	<ul style="list-style-type: none"> - Hypertension - Hyperlipidemia (raised cholesterol) - Stroke - Type 2 diabetes - obesity

Table 12

Alpha : Meta Program and Pathology Overlay

Meta-Program	Archetype	Associated Pathology
Success Strategy: Vision Convincer Strategy: Trustful Direction: Towards Convincer Channel: Listening Perspective: Own Reference: Internal Success Strategy: Realisation Information Size: Global Primary Attention: Caring for Self Primary Interest: Information Time Frame: Long-term Planning Style: Option	Alpha	- Optimal state for enhanced wellness

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APPENDIX A
RAW DATA – COMPLETE DATA TABLES

Table A1: Complete Questionnaires

	Total	Category		
		Bravo	Charlie	Alpha
Unweighted Base	69	40	17	12
Weighted Base	69	(A)	(B)	(C)
Yes	69 100.0%	40 100.0%	17 100.0%	12 100.0%

Table A2: Perception

	Total	Category		
		Bravo	Charlie	Alpha
Sensory Channel: Seeing	70.80 69	69.50 40	77.94 17	65.00 12
Sensory Channel: Hearing	64.71 69	61.63 40	72.65 17	63.75 12
Sensory Channel: Feeling	67.75 69	68.75 40	68.53 17	63.33 12
Primary Interest: People	71.96 69	69.38 40	78.53 17	71.25 12
Primary Interest: Places	45.29 69	43.00 40	55.29 17	38.75 12
Primary Interest: Activity	76.16 69	74.38 40	82.35 17	73.33 12
Primary Interest: Information	81.09 69	79.88 40	84.12 17	80.83 12
Primary Interest: Things	50.36 69	49.63 40	57.65 17	42.50 12
Perspective: Own	58.62 69	57.38 40	59.41 17	61.67 12
Perspective: Partner	69.13 69	66.13 40	75.59 17	70.00 12
Perspective: Observer	68.70 69	70.13 40	69.41 17	62.92 12

Table A3: Motivation Factors :

	Total	Category:		
		Bravo	Charlie	Alpha
Motives: Influence	71.67 69	70.38 40	76.76 17	68.75 12
Motives: Affiliation	54.06 69	50.50 40	63.82 17	52.08 12
Motives: Achievement	73.91 69	73.13 40	78.24 17	70.42 12
Direction: Away From	66.38 69	64.38 40	74.12 17	62.08 12
Direction: Towards	84.13 69	84.00 40	83.24 17	85.83 12
Reference: Internal	66.67 69	67.13 40	64.71 17	67.92 12
Reference: External	63.12 69	60.38 40	75.29 17	55.00 12
Planning Style: Option	73.70 69	71.25 40	79.12 17	74.17 12
Planning Style: Procedures	62.68 69	62.75 40	65.29 17	58.75 12

Table A4: Motivation Processing

	Total	Category		
		Bravo	Charlie	Alpha
Level of Activity: Pre-Active	67.90	66.75	72.65	65.00
	69	40	17	12
Level of Activity: Re-Active	75.51	73.88	80.59	73.75
	69	40	17	12
Comparison: Sameness	71.01	69.75	78.82	64.17
	69	40	17	12
Comparison: Difference	72.54	72.63	73.24	71.25
	69	40	17	12
Reaction: Match	75.87	73.38	83.82	72.92
	69	40	17	12
Reaction: Mismatch	59.86	59.38	61.47	59.17
	69	40	17	12
Success Strategy: Vision	82.10	79.13	86.18	86.25
	69	40	17	12
Success Strategy: Realisation	77.90	76.50	80.00	79.58
	69	40	17	12
Success Strategy: Quality Assurance	60.65	59.88	63.24	59.58
	69	40	17	12
Work Orientation: Relationship	70.65	67.25	79.41	69.58
	69	40	17	12
Work Orientation: Task	72.54	72.75	74.41	69.17
	69	40	17	12

Table A5: Information Processing

	Total	Category		
		Bravo	Charlie	Alpha
Information Size: Global	84.49	82.88	87.35	85.83
	69	40	17	12
Information Size: Details	65.72	63.88	71.76	63.33
	69	40	17	12
Thinking Style: Abstract	73.26	71.25	78.24	72.92
	69	40	17	12
Thinking Style: Concrete	71.74	71.13	77.06	66.25
	69	40	17	12
Working Style: Team-player	65.14	62.75	74.71	59.58
	69	40	17	12
Working Style: Individualist	62.39	63.25	63.53	57.92
	69	40	17	12
Primary Attention: Caring for Self	66.38	67.38	64.41	65.83
	69	40	17	12
Primary Attention: Caring for Others	62.90	59.25	73.53	60.00
	69	40	17	12
Time Orientation: Past	68.62	65.75	76.18	67.50
	69	40	17	12
Time Orientation: Present	73.26	71.00	79.12	72.50
	69	40	17	12
Time Orientation: Future	75.51	75.38	77.06	73.75
	69	40	17	12
Time Frame: Long-term	70.00	69.75	70.88	69.58
	69	40	17	12
Time Frame: Short-term	70.51	69.63	74.41	67.92
	69	40	17	12
Convincer Channel: Looking	66.52	64.25	72.94	65.00
	69	40	17	12
Convincer Channel: Listening	61.52	60.13	62.65	64.58
	69	40	17	12
Convincer Channel: Reading	64.86	65.63	64.12	63.33
	69	40	17	12
Convincer Channel: Doing	68.19	68.75	70.88	62.50
	69	40	17	12
Convincer Strategy: Sceptic	52.25	52.25	56.76	45.83
	69	40	17	12
Convincer Strategy: Trustful	75.00	72.38	78.24	79.17
	69	40	17	12

Table A6: Verve Category / Archetype

	Total	Category:		
		Bravo	Charlie	Alpha
Unweighted Base	69	40	17	12
Weighted Base	69	40 (A)	17 (B)	12 (C)
Bravo	40 58.0%	40 100.0%	0 0.0%	0 0.0%
Charlie	3 4.3%	0 0.0%	3 17.6%	0 0.0%
Bravo/ Charlie	14 20.3%	0 0.0%	14 82.4%	0 0.0%
Alpha/ Bravo	12 17.4%	0 0.0%	0 0.0%	12 100.0%

APPENDIX B
CORRESPONDENCE ANALYSIS RESULTS

Table B1 : Absolute scores - all archetypes

	Charlie (n=17)	Bravo (n=40)	Alpha (n=12)
Comparison: Difference	73.2	72.6	71.3
Comparison: Sameness	78.8	69.8	64.2
Convincer Channel: Doing	70.9	68.8	62.5
Convincer Channel: Listening	62.7	60.1	64.6
Convincer Channel: Looking	72.9	64.3	65.0
Convincer Channel: Reading	64.1	65.6	63.3
Convincer Strategy: Sceptic	56.8	52.3	45.8
Convincer Strategy: Trustful	78.2	72.4	79.2
Direction: Away From	74.1	64.4	62.1
Direction: Towards	83.2	84.0	85.8
Information Size: Details	71.8	63.9	63.3
Information Size: Global	87.4	82.9	85.8
Level of Activity: Pre-Active	72.7	66.8	65.0
Level of Activity: Re-Active	80.6	73.9	73.8
Motives: Achievement	78.2	73.1	70.4
Motives: Affiliation	63.8	50.5	52.1
Motives: Influence	76.8	70.4	68.8
Perspective: Observer	69.4	70.1	62.9
Perspective: Own	59.4	57.4	61.7
Perspective: Partner	75.6	66.1	70.0
Planning Style: Option	79.1	71.3	74.2
Planning Style: Procedures	65.3	62.8	58.8
Primary Attention: Caring for Others	73.5	59.3	60.0
Primary Attention: Caring for Self	64.4	67.4	65.8
Primary Interest: Activity	82.4	74.4	73.3
Primary Interest: Information	84.1	79.9	80.8
Primary Interest: People	78.5	69.4	71.3
Primary Interest: Places	55.3	43.0	38.8
Primary Interest: Things	57.7	49.6	42.5
Reaction: Match	83.8	73.4	72.9
Reaction: Mismatch	61.5	59.4	59.2
Reference: External	75.3	60.4	55.0
Reference: Internal	64.7	67.1	67.9
Sensory Channel: Feeling	68.5	68.8	63.3
Sensory Channel: Hearing	72.7	61.6	63.8

Sensory Channel: Seeing	77.9	69.5	65.0
Success Strategy: Quality Assurance	63.2	59.9	59.6
Success Strategy: Realisation	80.0	76.5	79.6
Success Strategy: Vision	86.2	79.1	86.3
Thinking Style: Abstract	78.2	71.3	72.9
Thinking Style: Concrete	77.1	71.1	66.3
Time Frame: Long-term	70.9	69.8	69.6
Time Frame: Short-term	74.4	69.6	67.9
Time Orientation: Future	77.1	75.4	73.8
Time Orientation: Past	76.2	65.8	67.5
Time Orientation: Present	79.1	71.0	72.5
Work Orientation: Relationship	79.4	67.3	69.6
Work Orientation: Task	74.4	72.8	69.2
Working Style: Individualist	63.5	63.3	57.9
Working Style: Team-player	74.7	62.8	59.6

APPENDIX B
CORRESPONDENCE ANALYSIS RESULTS

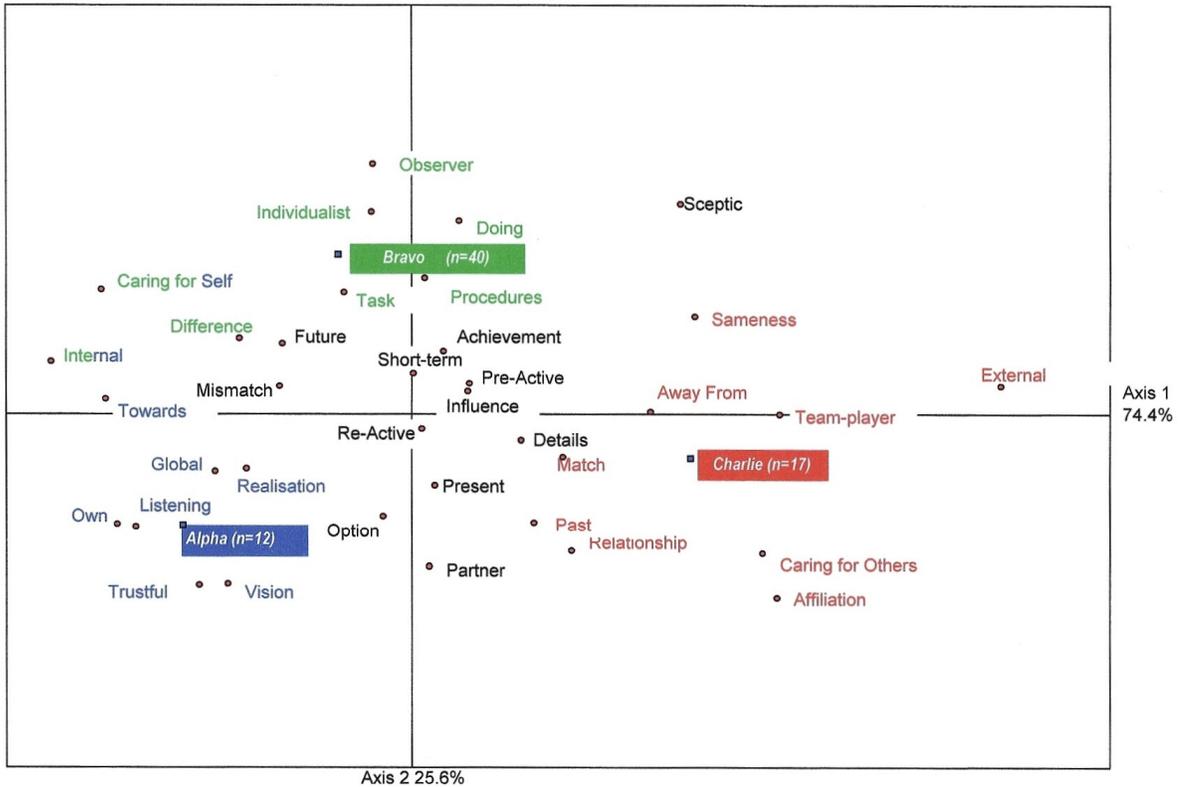
Table B2 : Charlie dominating absolute scores

	Charlie (n=17)	Bravo (n=40)	Alpha (n=12)
Comparison: Difference	73.2	72.6	71.3
Comparison: Sameness	78.8	69.8	64.2
Convincer Channel: Doing	70.9	68.8	62.5
Convincer Channel: Listening	62.7	60.1	64.6
Convincer Channel: Looking	72.9	64.3	65.0
Convincer Channel: Reading	64.1	65.6	63.3
Convincer Strategy: Sceptic	56.8	52.3	45.8
Convincer Strategy: Trustful	78.2	72.4	79.2
Direction: Away From	74.1	64.4	62.1
Direction: Towards	83.2	84.0	85.8
Information Size: Details	71.8	63.9	63.3
Information Size: Global	87.4	82.9	85.8
Level of Activity: Pre-Active	72.7	66.8	65.0
Level of Activity: Re-Active	80.6	73.9	73.8
Motives: Achievement	78.2	73.1	70.4
Motives: Affiliation	63.8	50.5	52.1
Motives: Influence	76.8	70.4	68.8
Perspective: Observer	69.4	70.1	62.9
Perspective: Own	59.4	57.4	61.7
Perspective: Partner	75.6	66.1	70.0
Planning Style: Option	79.1	71.3	74.2
Planning Style: Procedures	65.3	62.8	58.8
Primary Attention: Caring for Others	73.5	59.3	60.0
Primary Attention: Caring for Self	64.4	67.4	65.8
Primary Interest: Activity	82.4	74.4	73.3
Primary Interest: Information	84.1	79.9	80.8
Primary Interest: People	78.5	69.4	71.3
Primary Interest: Places	55.3	43.0	38.8
Primary Interest: Things	57.7	49.6	42.5
Reaction: Match	83.8	73.4	72.9
Reaction: Mismatch	61.5	59.4	59.2
Reference: External	75.3	60.4	55.0
Reference: Internal	64.7	67.1	67.9
Sensory Channel: Feeling	68.5	68.8	63.3
Sensory Channel: Hearing	72.7	61.6	63.8

Sensory Channel: Seeing	77.9	69.5	65.0
Success Strategy: Quality Assurance	63.2	59.9	59.6
Success Strategy: Realisation	80.0	76.5	79.6
Success Strategy: Vision	86.2	79.1	86.3
Thinking Style: Abstract	78.2	71.3	72.9
Thinking Style: Concrete	77.1	71.1	66.3
Time Frame: Long-term	70.9	69.8	69.6
Time Frame: Short-term	74.4	69.6	67.9
Time Orientation: Future	77.1	75.4	73.8
Time Orientation: Past	76.2	65.8	67.5
Time Orientation: Present	79.1	71.0	72.5
Work Orientation: Relationship	79.4	67.3	69.6
Work Orientation: Task	74.4	72.8	69.2
Working Style: Individualist	63.5	63.3	57.9
Working Style: Team-player	74.7	62.8	59.6

APPENDIX B
CORRESPONDENCE ANALYSIS RESULTS

Figure B1 : Correspondence map



APPENDIX C
DEVIATION ANALYSIS RESULTS

Table C1 : Deviation Results – All Archetypes

	Charlie (n=17)	Bravo (n=42)	Alpha (n=12)
Success Strategy: Vision	-2.7	-2.7	5.4
Convincer Strategy: Trustful	-2.9	-2.4	5.3
Direction: Towards	-6.1	1.7	4.5
Convincer Channel: Listening	-3.5	-0.8	4.3
Perspective: Own	-3.6	-0.7	4.3
Reference: Internal	-5.8	2.1	3.7
Success Strategy: Realisation	-3.4	-0.3	3.7
Information Size: Global	-3.1	-0.4	3.5
Primary Attention: Caring for Self	-5.4	3.1	2.3
Primary Interest: Information	-2.4	0.2	2.1
Time Frame: Long-term	-3.4	1.4	2.0
Planning Style: Option	-0.2	-1.8	2.0
Perspective: Partner	0.8	-2.7	1.9
Comparison: Difference	-3.4	2.0	1.4
Thinking Style: Abstract	-0.3	-1.1	1.4
Reaction: Mismatch	-2.1	0.8	1.3
Convincer Channel: Reading	-4.1	2.8	1.3
Time Orientation: Future	-2.8	1.8	1.0
Time Orientation: Present	0.5	-1.4	0.9
Success Strategy: Quality Assurance	-1.3	0.4	0.8
Primary Interest: People	1.1	-1.9	0.8
Level of Activity: Re-Active	0.0	-0.4	0.4
Time Orientation: Past	2.2	-2.4	0.2
Sensory Channel: Hearing	2.7	-2.8	0.1
Work Orientation: Relationship	3.0	-3.1	0.1
	0.0	0.0	0.0
Convincer Channel: Looking	1.5	-1.5	0.0
Time Frame: Short-term	-0.5	0.7	-0.2
Work Orientation: Task	-2.0	2.4	-0.4
Primary Interest: Activity	1.1	-0.5	-0.6
Information Size: Details	1.5	-0.8	-0.6
Motives: Influence	0.5	0.1	-0.7
Level of Activity: Pre-Active	0.5	0.3	-0.7
Motives: Achievement	-0.1	1.0	-0.9
Reaction: Match	2.5	-1.5	-1.1

Sensory Channel: Feeling	-2.3	3.5	-1.2
Planning Style: Procedures	-0.7	2.0	-1.3
Motives: Affiliation	5.0	-3.6	-1.4
Working Style: Individualist	-1.7	3.2	-1.5
Primary Attention: Caring for Others	5.4	-3.5	-2.0
Perspective: Observer	-2.1	4.3	-2.2
Direction: Away From	3.3	-0.9	-2.4
Convincer Channel: Doing	-0.5	3.0	-2.5
Thinking Style: Concrete	1.3	1.4	-2.7
Sensory Channel: Seeing	2.9	0.4	-3.3
Working Style: Team-player	5.1	-1.4	-3.8
Convincer Strategy: Sceptic	2.1	1.9	-3.9
Comparison: Sameness	3.7	0.5	-4.2
Primary Interest: Places	6.9	-1.6	-5.3
Primary Interest: Things	4.7	0.9	-5.7
Reference: External	7.9	-1.6	-6.3

APPENDIX C
DEVIATION ANALYSIS RESULTS

Table C2 : Charlie Deviation Scores

	Charlie (n=17)
Reference: External	7.9
Primary Interest: Places	6.9
Primary Attention: Caring for Others	5.4
Working Style: Team-player	5.1
Motives: Affiliation	5.0
Primary Interest: Things	4.7
Comparison: Sameness	3.7
Direction: Away From	3.3
Work Orientation: Relationship	3.0
Sensory Channel: Seeing	2.9
Sensory Channel: Hearing	2.7
Reaction: Match	2.5
Time Orientation: Past	2.2
Convincer Strategy: Sceptic	2.1
Convincer Channel: Looking	1.5
Information Size: Details	1.5
Thinking Style: Concrete	1.3
Primary Interest: People	1.1
Primary Interest: Activity	1.1
Perspective: Partner	0.8
Motives: Influence	0.5
Time Orientation: Present	0.5
Level of Activity: Pre-Active	0.5
Level of Activity: Re-Active	0.0
Motives: Achievement	-0.1
Planning Style: Option	-0.2
Thinking Style: Abstract	-0.3
Time Frame: Short-term	-0.5
Convincer Channel: Doing	-0.5
Planning Style: Procedures	-0.7
Success Strategy: Quality Assurance	-1.3
Working Style: Individualist	-1.7
Work Orientation: Task	-2.0
Perspective: Observer	-2.1
Reaction: Mismatch	-2.1

Sensory Channel: Feeling	-2.3
Primary Interest: Information	-2.4
Success Strategy: Vision	-2.7
Time Orientation: Future	-2.8
Convincer Strategy: Trustful	-2.9
Information Size: Global	-3.1
Time Frame: Long-term	-3.4
Success Strategy: Realisation	-3.4
Comparison: Difference	-3.4
Convincer Channel: Listening	-3.5
Perspective: Own	-3.6
Convincer Channel: Reading	-4.1
Primary Attention: Caring for Self	-5.4
Reference: Internal	-5.8
Direction: Towards	-6.1

APPENDIX C
DEVIATION ANALYSIS RESULTS

Table C3 : Bravo Deviation Scores

	Bravo (n=40)
Perspective: Observer	4.3
Sensory Channel: Feeling	3.5
Working Style: Individualist	3.2
Primary Attention: Caring for Self	3.1
Convincer Channel: Doing	3.0
Convincer Channel: Reading	2.8
Work Orientation: Task	2.4
Reference: Internal	2.1
Comparison: Difference	2.0
Planning Style: Procedures	2.0
Convincer Strategy: Sceptic	1.9
Time Orientation: Future	1.8
Direction: Towards	1.7
Thinking Style: Concrete	1.4
Time Frame: Long-term	1.4
Motives: Achievement	1.0
Primary Interest: Things	0.9
Reaction: Mismatch	0.8
Time Frame: Short-term	0.7
Comparison: Sameness	0.5
Success Strategy: Quality Assurance	0.4
Sensory Channel: Seeing	0.4
Level of Activity: Pre-Active	0.3
Primary Interest: Information	0.2
Motives: Influence	0.1
Success Strategy: Realisation	-0.3
Level of Activity: Re-Active	-0.4
Information Size: Global	-0.4
Primary Interest: Activity	-0.5
Perspective: Own	-0.7
Convincer Channel: Listening	-0.8
Information Size: Details	-0.8
Direction: Away From	-0.9
Thinking Style: Abstract	-1.1
Working Style: Team-player	-1.4

Time Orientation: Present	-1.4
Reaction: Match	-1.5
Convincer Channel: Looking	-1.5
Primary Interest: Places	-1.6
Reference: External	-1.6
Planning Style: Option	-1.8
Primary Interest: People	-1.9
Convincer Strategy: Trustful	-2.4
Time Orientation: Past	-2.4
Success Strategy: Vision	-2.7
Perspective: Partner	-2.7
Sensory Channel: Hearing	-2.8
Work Orientation: Relationship	-3.1
Primary Attention: Caring for Others	-3.5
Motives: Affiliation	-3.6

APPENDIX C
DEVIATION ANALYSIS RESULTS

Table C4 : Alpha Deviation Scores

	Alpha (n=12)
Success Strategy: Vision	5.4
Convincer Strategy: Trustful	5.3
Direction: Towards	4.5
Convincer Channel: Listening	4.3
Perspective: Own	4.3
Reference: Internal	3.7
Success Strategy: Realisation	3.7
Information Size: Global	3.5
Primary Attention: Caring for Self	2.3
Primary Interest: Information	2.1
Time Frame: Long-term	2.0
Planning Style: Option	2.0
Perspective: Partner	1.9
Comparison: Difference	1.4
Thinking Style: Abstract	1.4
Reaction: Mismatch	1.3
Convincer Channel: Reading	1.3
Time Orientation: Future	1.0
Time Orientation: Present	0.9
Success Strategy: Quality Assurance	0.8
Primary Interest: People	0.8
Level of Activity: Re-Active	0.4
Time Orientation: Past	0.2
Sensory Channel: Hearing	0.1
Work Orientation: Relationship	0.1
Convincer Channel: Looking	0.0
Time Frame: Short-term	-0.2
Work Orientation: Task	-0.4
Primary Interest: Activity	-0.6
Information Size: Details	-0.6
Motives: Influence	-0.7
Level of Activity: Pre-Active	-0.7
Motives: Achievement	-0.9
Reaction: Match	-1.1

Sensory Channel: Feeling	-1.2
Planning Style: Procedures	-1.3
Motives: Affiliation	-1.4
Working Style: Individualist	-1.5
Primary Attention: Caring for Others	-2.0
Perspective: Observer	-2.2
Direction: Away From	-2.4
Convincer Channel: Doing	-2.5
Thinking Style: Concrete	-2.7
Sensory Channel: Seeing	-3.3
Working Style: Team-player	-3.8
Convincer Strategy: Sceptic	-3.9
Comparison: Sameness	-4.2
Primary Interest: Places	-5.3
Primary Interest: Things	-5.7
Reference: External	-6.3

APPENDIX C
DEVIATION ANALYSIS RESULTS

Table C5 : Differential Analysis – All Archetypes

Charlie Associated Meta-Programs		Charlie Dissociated Meta-Programs		DIFFERENTIAL
Reference: External	7.9	Reference: Internal	-5.8	2.1
Primary Attention: Caring for Others	5.4	Primary Attention: Caring for Self	-5.4	0
Comparison: Sameness	3.7	Comparison: Difference	-3.4	0.3
Direction: Away From	3.3	Direction: Towards	-6.1	-2.8
Work Orientation : Relationship	3	Work Orientation : Task	-2	1
Reaction: Match	2.5	Reaction: Mismatch	-2.1	0.4
Time Orientation: Past	2.2	Time Orientation: Future	-2.8	-0.6
Convincer Strategy: Sceptic	2.1	Convincer Strategy: Trustful	-2.9	-0.8

Bravo Associated Meta-Programs		Bravo Dissociated Meta-Programs		DIFFERENTIAL
Perspective: Observer	4.3	Perspective: Partner	-2.7	1.6
Working Style: Individualist	3.2	Working Style: Team-player	-1.4	1.8
Primary Attention: Caring for Self	3.1	Primary Attention: Caring for Others	-3.5	-0.4
Work Orientation: Task	2.4	Work Orientation: Relationship	-3.1	-0.7
Reference: Internal	2.1	Reference: External	-1.6	0.5
Comparison: Difference	2	Comparison: Sameness	0.5	2.5
Planning Style: Procedures	2	Planning Style: Option	-1.8	0.2
Convincer Strategy: Sceptic	1.9	Convincer Strategy: Trustful	-2.4	-0.5
Time Orientation : Future	1.8	Time Orientation: Past	-2.4	-0.6

Alpha Associated Meta-Programs		Alpha Dissociated Meta-Programs		DIFFERENTIAL
Convincer Strategy: Trustful	5.3	Convincer Strategy: Sceptic	-3.9	1.4
Direction: Towards	4.5	Direction: Away From	-2.4	2.1
Perspective: Own	4.3	Perspective: Observer	-2.2	2.1
Reference: Internal	3.7	Reference: External	-6.3	-2.6
Primary Attention: Caring for Self	2.3	Primary Attention: Caring for Others	-2	0.3