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ANTHONY SPENCER NEWTON

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**Author: Anthony Spencer (Tony) NEWTON**

**Title: Words into Actions- does a networking skills workshop have a quantifiable effect on the mindset and actions of participants?**

**Abstract:** This paper seeks to discover whether anecdotal feedback about the value of a workshop-style teaching intervention would be supported by quantitative research. The author used a referral mechanism to build a cohort of highly effective networkers whose input was used to develop a 34 question, nine factor networking inventory. These nine factors were derived through exploratory and confirmatory factor analysis and differ from the inductive typology assumed at the outset. These factors are: Altruism, Clarity of Purpose, Contact Maintenance, Contact Management, Engagement, Locus of Control, Openness to Help, Persistence and Recall Ability. The inventory was subsequently tested for its ability to discriminate between this group of highly effective networkers and others, and succeeded in doing so at a statistically significant level for seven of the nine factors. Having demonstrated its discriminatory ability, the author applied the inventory in a 'before and after' study to workshop participants and showed that the intervention resulted in a significant but selective improvement in inventory scores, with moderate or large effect size, for eight of the nine factors at one month follow-up.



# Words into Actions:

Does a networking skills workshop have a quantifiable effect on the mindset and actions of participants?

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**Department: Business School**

**Institution: Durham University**

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## **DEDICATION**

In memory of my father, whose terminal illness progressed faster than my research, and of my Uncle Alfred, whose generous legacy spurred me to undertake this doctorate.

## **ACKNOWLEDGMENTS**

To my wife and best friend Jill, who was quite wrong in claiming that she had “taken up too much of my time” at our first meeting, and who believes in me more than I do;

To my friend and business partner Judith, for the fifteen year journey we’ve shared since our time together on the London Business School Sloan Masters Fellowship;

And to Mike and Emma, now adult, who learnt much younger than most that life is full of imperfect choices and difficult decisions.

## **STATEMENT OF COPYRIGHT**

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## **CHAPTER ONE – INTRODUCTION & CONTEXT**

### **1.1 Introduction**

Since 2001, I have taught business networking skills at business schools, corporates and 'non-profit' organisations through the vehicle of a one-day, interactive workshop developed as a result of my experiences during the Sloan Masters Fellowship at London Business School.

Workshop feedback and post-workshop communication from participants provide anecdotal evidence that the training is well received, but do not indicate whether the training offers benefit of any duration.

Skinner's reinforcement theory (Skinner, 1953) proposes that a behavioural modification programme should consist of four steps:

1. Specify the desired behaviour
2. Measure the current incidence of desired behaviour
3. Provide behavioural consequences that reinforce desired behaviour
4. Determine the effectiveness of the programme by systematically assessing behavioural change

Of these four steps, my workshop interventions carried out to date go only as far as the first three, of which the second is purely subjective and the third is very much self-motivated. This research aims specifically to address step four, and discover whether the workshop interventions devised and taught by myself and my colleagues can be shown to have a quantifiable effect on the mindset and actions of participants.

### **1.2 Research Context**

There is general agreement that 'networking' is an important business skill. In the job search arena, Said Business School collects data on how graduates secured their first post-MBA job: 'networking' accounts for 43%, with 'previous employer' and 'external advertising' way behind with 15% each (Said, 2006).

Open any conference invitation and you'll probably see something like "there will be time for networking" (London Biotechnology Network, 2007). The phrase "must have excellent networking skills" is typical of advertisements for business development positions, while an Institute of Directors 'flyer' (Institute of Directors, 2007) offers the opportunity to "network with some of the key influencers and business leaders in the UK."

A new and welcome change to the perceived importance of networking is the introduction of a 'social networks' module as part of the compulsory syllabus in at least one European business school (Leipzig Graduate School of Management), moving networking concepts from the 'soft skills' fringe to the core.

Writing in Harvard Business Review in January 2007, Ibarra and Hunter (2007) bluntly state the importance of this skill set:

"...the alternative to networking is to fail- either in reaching for a leadership position or in succeeding at it."

Later in the same paper they conclude that:

"We have seen over and over again that people who work at networking can learn not only how to do it well but also how to enjoy it. And they tend to be more successful in their careers..."

Teaching people to 'do it well' at business schools, corporates and 'not for profit' organisations is something I have been doing since 2001. But while meta-analysis of feedback from 195 workshops over 12 years [Appendix A: Meta-analysis of Networking Workshop Feedback 2001-2013] and participant testimonials (Management Advantage Ltd, 2008) provides evidence that the teaching is perceived as useful and effective, I have only anecdotal evidence that the concepts and skills imparted remain with attendees as a life skill yielding tangible benefits in terms of career progression, earnings or recognition.

### 1.3 The Durham DBA Process

The Durham Business School Doctorate in Business Administration (DBA) is the academic equivalent of a PhD but is designed as a combination of taught and research phases, in part to overcome the acknowledged issue of poor doctoral completion rates.

The Durham DBA comprises 7 core modules, each of which is assessed through a summative assignment which is flexible enough to allow the candidate to link the module content to the emerging goals of their individual research.

**Table 1: Durham DBA Structure**

Module One	Practising Business Research
Module Two	Macro Perspectives In Business
Module Three	Micro Perspectives In Business
Module Four	Business Research: Functions And Disciplines
Module Five	Business Research Methods
Submission Of Graduate Discussion Paper (5,000 Words)	
Module Six	Rigour And Relevance In Business
Module Seven	Writing Workshop
Submission of 15,000 word Transfer Document	

The intent is that the guided thinking provided by this modular approach leads to the production of 15,000 word (max.) Transfer Document, comprising a 10,000 word literature review, and a 5,000 word research outline. This document is reviewed by an academic committee which rates the submission as 'doctoral' (in which case the candidate can proceed to the research phase of the DBA) or 'non-doctoral' (in which event

the candidate can re-submit or exit the programme with a Masters degree assuming all summative assignments have been passed).

The DBA can be undertaken as a three year, full time course of study in which the taught phase lasts a year and the research at least two, or (as I elected to participate) as a part time degree with taught modules spread over two years and an anticipated three years or more for the research phase.

Given the two year 'taught' element, DBA research tends to be more practitioner oriented than the traditional PhD, but the candidate is expected to deliver an academically substantial piece of business related research.

### **1.3.1 Report Format**

The 'three project' format of the DBA coupled with the chronological, sequential nature of the research mean that this report reads in parts like a research diary. Had I been writing for a peer review journal, the format would have been more succinct, but I felt it important to capture here not just what was done, but why it was done, the hurdles faced, the occasional insights and the learning taken from the DBA process. If at times the report takes on a journalistic tone, this reflects my own background and a desire to write in a way that engages the reader as well as imparting information.

## **1.4 'Three Project' Overview, Research Design & Rationale**

To address the overarching research question of whether our workshops bestow any quantifiable benefit, a three stage process was proposed which fitted neatly into the 'three project' DBA model in terms of both ring-fenced content and sequential timeline. The old military adage that "a plan never survives first contact with the enemy" proved true here, but although project boundaries became blurred, the 'three project' model generally worked well as a discipline for time management and reporting purposes.

### **1.4.1 Project #1 Proposition and Summary**

The intent was to develop, test and validate a questionnaire which seeks to elicit the mindset and actions that make effective networkers what they are.

The methodology was to identify and recruit a cohort of highly effective networkers, and use them to test and refine a networking questionnaire based on an existing typology and the messages conveyed in an existing intervention.

The Project #1 proposition was:

**...that a questionnaire based on an amended version of the Mitchell, Levin and Krumboltz typology provides a satisfactory model of networking mindset and actions.**

#### **1.4.2 Project #2 Propositions and Summary**

Having developed a networking inventory to capture the mindset and actions of effective networkers, Project #2 centred on testing whether this tool could discriminate between highly effective and less effective networkers.

The original methodology was to identify and survey a group of poor networkers to match the group of highly effective networkers recruited in Project #1 but the results of Project #1 coupled with recruitment issues resulted in the need to revise the inventory and to reconsider recruitment method.

The Project #2 propositions were:

**...that revisions to the networking inventory developed in Project #1 will result in a typology and an inventory suitable for operational use.** [note: this proposition added at conclusion of Project #1 when it became evident that the model explored was not satisfactory]

**...that the revised inventory will be able to discriminate between effective and ineffective networkers.**

### 1.4.3 Project #3 Propositions and Summary

If the questionnaire could indeed detect differences between a group of 'effective' and 'poor' networkers, then it should be possible to use that same questionnaire to test participants before and after workshop attendance with a view to a quantitative assessment of change (or otherwise) in their mindset and actions.

The questionnaire was completed by participants in networking workshops facilitated by myself or my business partner. They were surveyed prior to the intervention, and then again one month later.

The Project #3 propositions were:

**...that there will be a statistically significant improvement between pre- and post- intervention scores on one or more of the nine inventory factors.**

**...that if proposition 1 is supported, different factors will assume significance within defined sub groups of a heterogeneous dataset.**

**...that if proposition 1 is supported, a causal relationship can be demonstrated between a networking skills workshop intervention and this improvement.**

### 1.4.4 Why Quantitative Not Qualitative?

Within the business school and corporate environment, networking very definitely sits within what is generally termed the 'soft skills' curriculum. While the term 'soft' might originally have been applied to denote the fact that such skills generally cannot be tested in a way that will provide a 'hard' answer such as '42' ("the meaning of life, the universe, and everything", according to Douglas Adams), a thesaurus search on the word 'soft' reveals the synonyms 'yielding', 'smooth', 'quiet', 'gentle', 'dim', 'lenient', 'tender' and 'pathetic'. Are these adjectives with which a hard nosed business executive would want to be associated?

As discussed in section 1.2, things are changing, but we still encounter purchasing decision makers for whom (to paraphrase) "if it can't be measured, it doesn't exist/isn't important" and those who need the

comfort of a demonstrable Return on Investment. So one goal of the quantitative approach was to be able to put some 'hard' metrics to something which is not generally perceived to lend itself to measurement.

A second consideration was the anticipated quality of interaction with research participants. A typical workshop might put me at close quarters with participants for a single day, but with very little pre- or post-workshop contact. The geographic dispersal of participants and of the 'highly effective' networkers I already had in mind from which to create a 'gold standard' also mitigated against a qualitative, interview based approach.

A third theme was the desire to create an easy to administer diagnostic inventory which could be made available to researchers and trainers.

Having decided on a quantitative approach, an early idea was to use Organisational Network Analysis (ONA) techniques (see section 2.4) to measure network topology of workshop participants before and after our training intervention. I went as far as creating just such a mechanism for use via the talent management department of a major UK plc, but a change in personnel and the advent of 'austerity' measures turned a promising avenue into a dead end.

I believe that the ONA longitudinal approach still has merit, and plan to revive this approach when a suitable opportunity presents itself.

## CHAPTER TWO – LITERATURE REVIEW

### 2.1 Overview

What exactly is encompassed by the term ‘networking’ and what skills should be included when considering its pedagogical communication? Addressing these questions is a necessary prelude to designing a research study to assess quantitatively the value of a specific intervention to an individual and/or their organisation.

The definition I offer of networking is that it is the practice of using a set of social skills to create and maintain relationships with previously unknown individuals with a view to a flow of potentially interesting or useful information.

This definition recognises that effective networking encompasses mastery of all available tools and the ability to think laterally. This leads naturally to a consideration as to where the (so-called) ‘social networking’ sites such as Facebook, LinkedIn and Twitter fit in to this view. While clearly enablers/promulgators of information and opinion (as evidenced by a 2012 analysis of the role of social media in the decision as to whether to protest in Tahrir Square (Tufekci and Wilson, 2012), they are in many ways anything but genuinely social at an interpersonal level.

An illustration of the dichotomy between ‘social networks’ and the interpersonal networking skills that interest me is provided by Dunbar’s 1992 paper entitled ‘Neocortex size as a constraint on group size in primates’ (Dunbar, 1992), in which he states that:

“When a group’s size exceeds this limit, it becomes unstable and begins to fragment.

This then places an upper limit on the size of groups which any given species can maintain as cohesive social units through time.”

In humans, what has become popularised (Dunbar, 2010) as ‘Dunbar’s number’ is approximately 150, suggesting to those with an evolutionary psychology mindset that the number of relationships we can

support interpersonally is far fewer than the hundreds or thousands of web based 'friends' and 'followers' to which so many profess.

This does not in any way downplay the importance of 'social networks' on a macro level, but to reinforce the point that, at an individual level, and irrespective of the technology available, our response to others remains 'hard wired' from our time in the Environment of Evolutionary Adaptedness (Tooby and Cosmides, 1990).

While the term 'social networking' has been hijacked (or re-invented) to refer solely to online interactivity and the use of specific tools, the word 'networking' within my research refers to a much broader canvas of interpersonal interaction. To highlight this, one major practical failing I often encounter is the over-reliance on a preferred technology, such as email or text message when a phone call or a meeting might have led to a better outcome.

Effective networking alone is clearly not the route to career progression. In 1983 when 'networking' was becoming a buzzword, Kadushin (1983) suggested in an article entitled 'Networking; No Panacea' that:

“...informal networking works well mainly because it is a low-cost way of getting things done efficiently. When the costs mount and/or the efficiency drops, formal arrangements, contracts, and payments may yet be the best way.”

In the same paper, Kadushin concludes:

“...we need to be aware of the limitations as well as the virtues of networks and networking lest we become prematurely disappointed with what is, after all, a great social discovery.”

The message from the literature discussed in this chapter is that if you network effectively, you have a far better chance of having your talents recognised, and that one of the reasons that 'networking' has got a bad reputation is that some practitioners have picked up (or been taught) tactics without any underpinning of strategy. This results in people trying to sell themselves or their product without bothering to find out

anything about the person they're engaging. Others completely misunderstand the nature of networking or lack the most basic of skills.

Part of the problem are teachers and self-help books which show how to 'work a room' (a term I dislike because it shouts 'manipulation' and suggests a narrow, tactical view of the networking process), but without imparting any framework to a practical behaviour which, exercised in isolation, can appear highly manipulative.

So what in the literature might help construct a strategic framework for networking activity and avoid us, in Kadushin's words, from becoming 'prematurely disappointed'?

There are five strands of literature relevant to the research topic:

- Social networks, with a focus on their importance for personal and professional success and lessons for effective networking activity
- Networking as an emergent property of interpersonal skills- what are these skills, who has them and how are they used to best effect? This informs the actions of the effective networker
- Organisational and social network analysis- how can network topology be described, visualised, analysed and modified? This informs the mindset of the effective networker
- Pedagogy- what evidence is there that one day training interventions are effective in this or in other fields, and what are the metrics of success? This informs workshop design and teaching efficacy
- Methodology and statistical analysis- how have I arrived at my chosen methodology and why have I chosen particular statistical tools?

Each of these strands is now reviewed separately.

## 2.2 The Social Networks Literature

Work by Katz & Lazarsfeld (1964) elicited the idea of a pivotal 'opinion leader' but it was Milgram's work on 'The Small World Problem' which demonstrated that we were all interconnected to a far greater extent than was anticipated intuitively (Milgram, 1967).

This concept of connectedness was romanticised and exposed to a wider audience in the play and subsequent film 'Six Degrees of Separation' by John Guare (1990), a quote from which sums up the premise:

"I read somewhere that everyone on this planet is separated by only six other people. Six degrees of separation. Between us and everyone else on this planet. The President of the United States. A gondolier in Venice. Fill in the names.

I find that a) extremely comforting that we're so close; and b) like Chinese water torture that we're so close. Because you have to find the right six people to make the connection. It's not just big names. It's anyone. A native in a rainforest. A Tierra Del Fuegan. An Eskimo. I am bound to everyone on this planet by a trail of six people. It's a profound thought...how everyone is a new door opening up into other worlds. Six degrees of separation between us and everyone else on this planet. But to find the right six people..."

Subsequent authors, for example Kleinfeld (2002) - whose work on the Milgram archive at Yale leads her to suggest that the 'six degrees' concept "may be the academic equivalent of an urban myth" - have been unable to replicate the degree of connectedness reported by Milgram, although work by Dodds et al using email (Dodds et al., 2003) suggests that five to seven steps is realistic. The 'Six Degrees of Kevin Bacon' game originated at the University of Virginia (Reynolds and Tjaden, 2007) uses the internet movie database to illustrate just what a small world we occupy.

This small world extends historically as well as socially. My visit to a Mormon information centre in Utah reveals a family tree showing 25 US Presidents to be blood relations. Surprising and counter-intuitive at first glance, but not when one does the maths and considers that the 'privileged' political class (even in the

US which prides itself on the notion that anyone can become President) has traditionally been a closed network. Indeed, it is estimated that over 100 million Americans have family ties to at least one of the 42 US presidents (About Genealogy website, 2007).

But while it might be a nice idea that we may be connected to the Queen, The Dalai Lama or the US President in just six steps, more recent work by Watts & Strogatz (1998) shows that we are not in fact uniformly connected to each other by 'six degrees of separation', but rather that we are connected to each other via a small number of very highly connected 'connectors'. It is these 'connectors' who can reach across huge distances (socially, geographically, culturally, temporally, professionally) to connect smaller clusters.

The importance of these 'connectors' in the business context is highlighted by the work of Granovetter in his seminal paper 'The Strength of Weak Ties' (Granovetter, 1973), which found that people in a Boston suburb were not getting information about job opportunities primarily through people they knew well (as might be expected intuitively), but rather from those 'weak' ties on the periphery of their network. To quote the paper directly (*italics added by me*):

"In many cases, the contact was someone only *marginally* included in the current network of contacts, such as an old college friend or a former workmate or employer, with whom sporadic contact had been maintained (Granovetter 1970, pp. 76-80). Usually such ties had not even been very strong when first forged... Chance meetings or mutual friends operated to reactivate such ties. It is remarkable that people receive crucial information from *individuals whose very existence they have forgotten.*"

The importance of these 'weak ties' to business success is highlighted by Jones and Conway (2004) who analysed the autobiography of entrepreneur James Dyson ('Against The Odds') to uncover the extent to which not only 'weak ties', but serendipity and chance meetings played a part in his success:

"Through a 're-reading' of *Against the Odds*, we have tried to demonstrate that the creation of Dyson's various business ventures was heavily dependent on both family and friends (strong ties)

as well as acquaintances (weak ties) and serendipitous meetings with 'strangers' (Aldrich *et al*, 1997:3). Dyson's family and friends provided him with financial and knowledge-based resources that helped ensure that he was able to turn ideas into successful business ventures...Perhaps what distinguishes entrepreneurs is the ability to make use of their strong ties as well as their effectiveness in mobilising weaker ties. As the case illustrates, contacts made on aeroplanes, in business meeting and seminars can eventually become an extremely important element in business success. In other words, neither strategic choice nor environmental determinism adequately explain the reasons why some entrepreneurial ventures succeed and others fail."

The existence of a relatively small number of these 'connectors' is, according to Watts and Strogatz (op. cit.) what bestows on our social networks the rather special characteristics of what has been termed 'the small world network'. The phenomenon is described by Mark Buchanan, in his book '*Small Worlds*' (2002):

"So the small world network...seems to be a beneficial mix of both clustering and weak links that tie distinct clusters together. Clustering makes for a dense social fabric and allows the formation of social capital, which in turn helps to promote efficiency in decision making. At the same time, weak ties keep everyone close in a social sense to the rest of the community, even if it is very large, which enables each person access to the diverse information and assets of the larger organization."

I use the shorthand of 'hunting' versus 'gathering' to describe networking activity, acknowledging that both terms could be construed as manipulative: human self-interest means that networking necessarily involves some manipulation (i.e. getting another person to do what you want them to do). The danger arises when the manipulative aspect is poorly executed or seen as the end-point of a relationship.

When 'hunting', we have a good idea of what we are looking for and how to go about getting it. Milgram's work reassures us that we live in a small world and that complaining that "I don't know anyone" is no excuse: if we think laterally about our contacts, there is bound to be at least one person who can get us closer to our destination. To quote a famous television advertisement for the AA breakdown service: "I don't, but I know a man who does." (AA, 1987)

Gladwell's contribution is that whilst some people will be networking 'dead ends', others- the 'connectors'- can open doors into new worlds. The importance of these connectors is explored in an article for the New Yorker entitled 'Six Degrees of Lois Weisberg' (Gladwell, 1999) and in his book *The Tipping Point* (Gladwell, 2000) .

One clear message feeding into networking strategy from Granovetter's 'Strength of Weak Ties' work is the counter-intuitive notion that our most effective networking will almost certainly be with people we don't know well. Those on the periphery of our existing networks who are unlike us in some dimension are most likely to take us in unexpected directions and to fill what Burt (1998) and others have termed 'structural holes' - 'dead ends' where communication stops because there is no 'connector' to bridge the gap.

These connectors are not necessarily at the top of the tree or those with the greatest apparent status, but those prepared and/or able to fill the 'structural holes' in other people's networks.

One characteristic of the 'Small World Network' that emerged from the work of Barabasi & Albert (1999) and reported by Buchanan in 'Small Worlds' is that the rich get richer- not just in financial terms but in 'social capital', a situation modelled by Lam (2007) to show how connections grow in a fractal-like manner. The relevance to this paper is that those who are seen to have a large number of connectors tend to accumulate even more. So actively becoming a 'connector'- that is, making an effort to bridge 'structural holes' between the networks of others, or in common parlance 'giving rather than receiving', can result in greater rewards than simply looking at people with a view of what they can do for you. This, perhaps, is the greatest 'aha!' moment when teaching those whose prior view of the networking process has been one of manipulation: the recognition that if you become known as someone who gives freely of time, contacts and help, then this encourages others to connect to you and through you, ultimately enhancing your own status and network.

Flynn (2003), quoting Clark, Mills & Corocoran (1989), suggests that "people maintain loose mental accounts of what they have received" in terms of favour exchanges, concluding that "the manner in which employees engage in favour exchange correlates with their success in organizations".

Luthans (1988), investigating whether there was a difference between the 'effective' and the 'successful' manager, used free observation logs on 248 real managers to create a typology of what real managers actually do rather than what has been termed the 'folklore'. He found that, on average, they spent 1/3 of their time on traditional management, 1/5 on human resources and communications and 1/5 on networking, with the remainder spent on other tasks.

For the successful real manager "networking seems to be the key to success", says Luthans. This contrasts with the effective manager who spends more time on communications and human resources.

While the negative message might be that networking is a route by which less good managers can 'get one over' on their more effective counterparts, I believe that a better use of this work is to help those 'effective' managers add a valuable, career enhancing dimension to their role.

### **2.3 The Interpersonal Skills Literature**

It would be surprising if personality did not have a role in something as personal as networking effectiveness. But accepting the description offered by Mount et al (2005) describing personality traits as "characteristics that are stable over time, provide the reasons for the person's behaviour, and are psychological in nature," then a necessary starting point to developing a useable questionnaire is to consider exactly what may have changed as a result of the workshop intervention. Barrick & Mount (2005) recognize that personality should be considered as a "distal motivational force" that will influence behaviour through proximal motivation variables such as goals and expectancies. It is these 'proximal motivation variables' that our workshops seek to influence.

If this research does indeed pick up differences between effective and ineffective networkers, a potentially informative extension to this work would be to invite participants to complete a personality inventory and to see what commonalities (if any) emerge.

Anecdotally, we know that positive intervention outcomes fall broadly into two camps: those who we help to 'do it' better (that is, they understand the strategy but fall down on the tactics and execution) and those

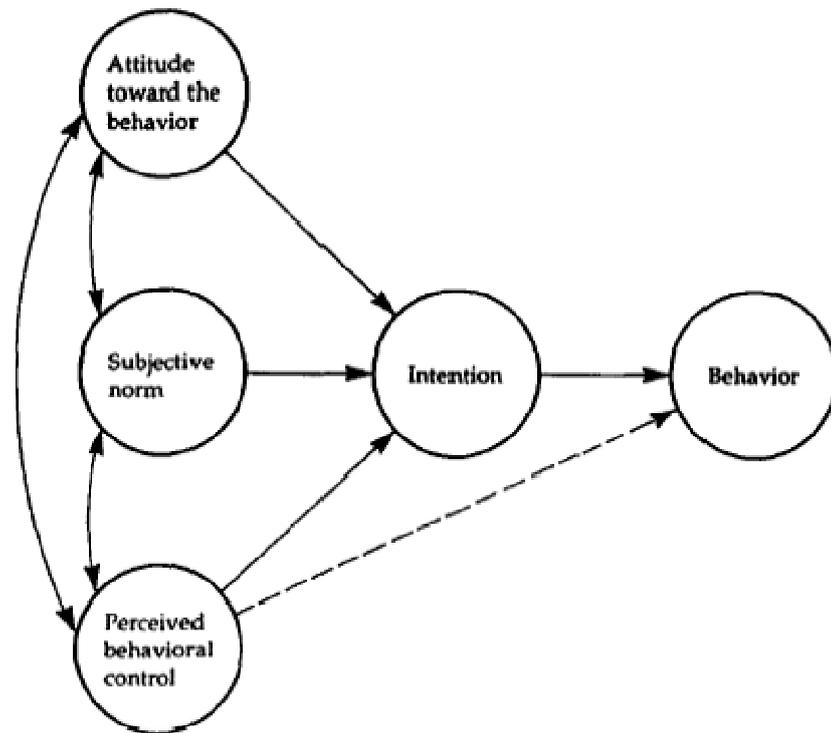
who, at the workshop outset, just don't 'get it' (for example, they fail to appreciate the importance of networking and how networks operate, or consider networking to be somehow beneath their dignity).

Using this model, it immediately becomes apparent how a well-designed and well-delivered intervention could help change the 'actions' of the first group and the 'mindset' of the second, and it is then a short step to reverse engineering the workshop content in order to map appropriate questions to the six axes proposed by the modified typology being investigated, ensuring that all relevant material is covered in the process.

### **2.3.1 'Mindset and Actions' vs. 'Attitudes, Intentions, Dispositions and Behaviours'**

An added benefit of defining networking activity in terms of mindset and actions is that it avoids being drawn into the semantic minefield of the behaviour literature. While the thesaurus records 'mindset' as being a synonym for 'attitude', Ajzen's Theory of Planned Behavior (1991:182), reproduced below as Figure 2, clearly makes a distinction between 'attitude toward the behavior' and the 'subjective norm' and gets close to the likely impact of a one day workshop in that:

“...it may be argued that broad attitudes and personality traits have an impact on specific behaviours only indirectly by influencing some of the factors that are more closely linked to the behaviour in question.”



**Figure 1: Theory of Planned Behavior (Ajzen 1991)**

He goes on to say (p. 206) that:

“Intention, perception of behavioural control, attitude toward the behaviour, and subjective norm each reveals a different aspect of the behaviour, and each can serve as a point of attack in attempts to change it.”

I consider it to be this ‘subjective norm’ – what an individual believes to be the accepted way of doing or thinking about things– which our workshops can be so effective at changing, suggesting that Ajzen’s ‘subjective norm’ is synonymous with what I have termed ‘mindset’, and that ‘attitude’ is a more distal construct. This contention finds support from Entwistle (1997: 10) in the pedagogy literature:

“...the distinction between learning as the acquisition of discrete packages of information, and as a change in the student’s conception of himself and the world around him, recurs in the research literature and throughout this book.”

As far as the effects of a one day workshop on ‘actions’ of participants are concerned, Ajzen (op. cit. :184) references Bandura (1982:122) and (1991) and reports that:

“...people’s behaviour is strongly influenced by their confidence in their ability to perform it. Self-efficacy beliefs can influence choice of activities, effort expended during performance, as well as thought patterns and emotional reactions.”

### **2.3.2 State vs. Trait**

Traits tend to change slowly (if at all) over time, and during development of the pilot study (see section 4.2) it became obvious that even if a single workshop intervention were to have a profound effect on the mindset of participants, this would almost certainly not be reflected in responses to a questionnaire derived, as originally intended, from the public domain International Personality Inventory Pool (IPIP, 2008) or from Saucier’s Mini-Marker Set (Saucier, 1994), which had the initial attraction of appearing to pertain directly to the behaviours under investigation, had already been used extensively and so did not require validation. However, the IPIP scales proved useful in offering a framework for designing questions adapted so as to be likely to capture a change of ‘state’ rather than ‘trait’. A summary of these source items and the scales from which they were excerpted is at Appendix B: Existing Personality Scales Pool For Project #1 Questions.

### **2.3.3 Luck vs. Planning**

Cabral and Salamone (1990) quoting Salamone & Slaney (1981) suggest that “chance factors may create possibilities for influence, but it is planfulness and personal ability acting on these factors that make them meaningful”, and ask how it is that one person may act on an unforeseen event, a second will not act and a third may not even realize that the event has happened. They explore the contribution made by two personality dimensions, locus of control and self-concept, on the reasons for these differing reactions.

Their suggestion is that those with a well-developed self-concept have a better filter through which to absorb the meaning of an unforeseen event or encounter. They make the interesting point that self-concept is most precarious during periods of transition- just those times when individuals may need to make best use of their networks.

In his book 'The Luck Factor' (Wiseman, 2003), Wiseman synthesises peer-reviewed work of his own and from other sources including 'On being lucky: the psychology and parapsychology of luck' (Smith et al., 1996) to show that 'lucky' people share certain traits, in that they:

- Maximise opportunities
- Listen to lucky hunches
- Expect good fortune
- Turn bad luck to the good

This correlates closely with the 'Planned Happenstance Theory' described by Mitchell, Levin and Krumboltz (Mitchell et al., 1999). Writing for career counsellors who have traditionally tried to take luck *out* of the equation, this paper explains that:

"Planned happenstance theory includes two concepts: (a) Exploration generates chance opportunities for increasing quality of life, and (b) skills enable people to seize opportunities."

The paper goes on to suggest that:

"Career counsellors can assist clients to develop five skills to recognize, create and use chance as career opportunities. These five skills and the accompanying definitions are as follows:

1. Curiosity: exploring new learning opportunities
2. Persistence: exerting effort despite setbacks
3. Flexibility: changing attitudes and circumstances
4. Optimism: viewing new opportunities as possible and attainable
5. Risk Taking: taking action in the face of uncertain outcomes"

This is an inductive typology based on anecdotal evidence rather than research. At the time I commenced my own research, I could identify around 20 authors who cited this work but none of whom actually tested the proposed typology. Of the 88 papers identified through the Web of Knowledge which cite this paper (as at October 2013), this still appears to be the case (see Appendix C: Papers Citing Mitchell, Levin, and Krumboltz Typology).

An exception worth noting is a paper entitled 'Evaluating a metacognitive and planned happenstance career training course for Taiwanese college students' (Ju-Chun et al., 2006) which used a pre-test/post-test design similar to my own, concluding that:

“The treatment groups significantly increased their career competencies in metacognitive, affective, and behavioral dimensions over the comparison and non-equivalent control groups.”

It is impossible to disentangle the relative contribution to effect of planned happenstance theory teaching and metacognition (i.e. thinking about how they are thinking) teaching within this paper, and the typology itself remains untested, but the point of note is that it demonstrates a clear benefit of a training intervention that teaches the typology.

While these five skills, manifested as interpersonal skills, behaviours and attitudes are exactly the marks of the 'lucky' networker (i.e. someone who is good at putting themselves in a position in which good things can happen), discussion with colleagues suggested that this typology misses one additional characteristic which would render it a more complete descriptor of the 'effective' networker, and that is what I termed 'diligence'- being systematic or organised with contact data, 'following up' new connections, making the effort to create ways of staying 'front of mind' with both weak and strong ties and thinking actively about how to benefit others.

Highly pertinent to the research design and likely outcome is a comment made by Ibarra and Hunter (op. cit.):

“When first efforts do not bring quick rewards, some may simply conclude that networking isn’t among their talents. But networking is not a talent; nor does it require a gregarious, extroverted personality. It is a skill, one that takes practice.”

This highlights the fact that whether one subscribes to the view of Costa & McCrae that “By the age of 30, our personality is set like plaster” (Costa, 1994) or to the more recent view espoused by Srivastava (2003) that personality can indeed change over time, it is unlikely that any existing personality questionnaire would capture the sort of change in disposition pre- and post workshop that I have attempted to identify (or indeed that our workshop would have any lasting effect on any personality trait).

Having said that, some or all of the dispositions central to effective networking might be mappable to one or more dimensions of personality. Any such attempt is outside the scope of this research, but the large dataset I now hold could be revisited with this in mind.

A view as to how this might be attempted is offered by Mount & Barrick (2005) who investigate the relationship between the Big Five personality types and the Big Six interest types as described by the RIASEC typology (Realistic, Investigative, Artistic, Social, Enterprising, Conventional) developed by Holland (1997).

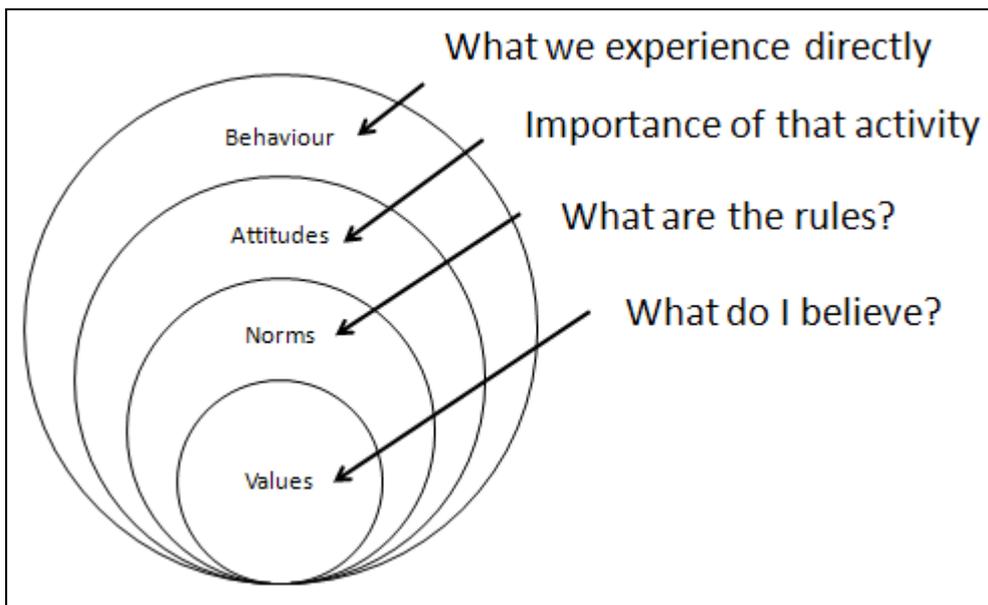
Conway & Jones (op. cit.) highlighted the role that chance meetings (the ‘gathering’ part of the ‘hunting and gathering’ metaphor) had played in James Dyson’s success, and the definition of such ‘serendipity’ is itself interesting.

Williams (1998) makes the point that participants in her study generally defined serendipity as “including events that were unplanned *by them* [italics are original]”, highlighting the idea that some ‘lucky breaks’ happen because people have put themselves in an environment (social, professional, cultural or geographic) in which such things can happen.

Krumboltz (1998) makes this very point and encourages career counsellors to teach their clients how to generate beneficial unplanned events for themselves- how to network effectively, by any definition.

### 2.3.4 The Role of Culture

The range of nationalities and cultures represented in a typical business school workshop is such that I often preface the session with the caveat that most of what I am presenting relates to networking as understood and practised in a 'western' milieu: this does not preclude us from getting into interesting byways about cultural differences, so to this end it is worth mentioning the work of Trompenaars (1993: 22) whose 'onion skin' model of culture (based on earlier work by Parsons, 'The Social System, 1951) helps participants to recognise and understand why some ideas that appear to be alien or counter-intuitive may be worth trying.



**Figure 2: Trompenaars culture model**

In particular, it gets them to focus on a point that Trompenaars makes strongly but succinctly:

“Culture is beneath awareness in the sense that no one bothers to verbalise it, yet it forms the roots of action...[C]ulture is man-made, confirmed by others, conventionalised and passed on for younger people or newcomers to learn. It provides people with a meaningful context in which to meet, to think about themselves and face the outer world.”

### 2.3.5 Non-verbal Communication

While efficacy in non-verbal communication cannot be explicitly tested by any of the proposed survey questions, the ability to create rapport, to select the best time and place to engage an individual or group in conversation, to demonstrate good listening skills or to spot a liar all require a mastery (innate or learned) of the many techniques that come under this broad heading.

A good overview of this literature is provided by 'The Definitive Book of Body Language' (Pease and Pease, 2007). Although non-academic and non-peer reviewed, it contains an extensive reference list drawn from a wide range of sources, including peer-reviewed and experimental papers.

Duryea (1991), writing about using body language as a means of dealing with peer pressure in the school environment, summarises the areas covered by this literature:

"Basic nonverbal components that could be applied to peer pressure resistance programs, such as gaze (eye behavior), stance and proxemics (space), gesture and emblems, and facial expression, are reviewed."

Of these, it is proxemics and facial expression that are most relevant to networking training. The term 'proxemics', originally coined by Hall in 1963, was re-defined by him a number of times, the most recent being 1974, as reported by Ickinger (2001):

"... the study of man's transactions as he perceives and uses intimate, personal, social and public space in various settings while following ...dictates of cultural paradigms. (Hall, 1974, p. 2)"

Of interest from the training perspective is Ickinger's finding (1982) that:

"Significant differences in proxemic behavior are observed in conjunction with differences in pretest scores on Rotter's I-E scale...Experimental subjects who engaged in easy mutual conversation during the game are shown to have used significantly closer interpersonal distances than those who did not."

Of the extensive literature on facial expression, the one I choose to highlight here for its relevance to training is the suggestion (Kleinke et al., 1998) that inward mood is affected by one's outward disposition: that is, smiling not only makes one attractive and approachable to others, but can lift one's own spirits- and if one is in a better mood, one is far more likely to impress, influence or persuade.

While it is self-evident to any individual wishing to try some of these non-verbal communication techniques that many of them do work, a problem in this area arises in that while experimentation supports some claims – for instance, that non-verbal cues can help detect a liar (Wiseman, 1995), it finds no empirical evidence to support other claims that have gained traction in the popular literature through oversimplification, misinterpretation or repetition from one work to another- an example being claims regarding interpretation of 'eye access' cues (Wiseman et al., 2012).

### **2.3.6 Literature Support for the Amended Mitchell, Levin and Krumboltz Typology**

The reasons for creating a new networking scale rather than using an existing one are discussed in section 2.3.8, but the decision to base this new scale around the Mitchell, Levin and Krumboltz typology was informed by literature supporting each of the typology's facets as being important to the development of relationships. These are now considered individually, and a list of initial IPIP scale items related to these facets is at Appendix B: Existing Personality Scales Pool For Project #1 Questions.

#### **2.3.6.1 Curiosity**

The Curiosity scale items within IPIP are all drawn from the proprietary VIA (Values in Action) inventory (Peterson, 2004: 132). Although proprietary, it appears that as with other VIA facets, the scale items are derived from a number of pre-existing scales listed within the volume 'Character Strengths and Virtues' which forms the backbone of VIA.

#### **2.3.6.2 Persistence**

Within IPIP, measures for persistence, industriousness or perseverance are included in the Temperament and Character Inventory (TCI) (Cloninger et al., 1994), the 6FPQ (Six Factor Personality Questionnaire) (Jackson et al., 2000) - which although referenced is proprietary so could not be accessed in its entirety.

Within VIA, persistence is measured using scale items drawn from six pre-existing scales (Peterson, 2004: 237).

Within TCI, described by the authors (op. cit.: 9) as 'a battery of tests designed to assess differences between people in seven basic dimensions of temperament and character', Persistence is one of four temperament dimensions (with Novelty Seeking, Harm Avoidance and Reward Dependence) described by the authors as being 'moderately heritable and stable throughout life'.

### **2.3.6.3 Flexibility**

Flexibility appears by name as a facet in only one of the IPIP inventories- The HEXACO Personality Inventory (HEXACO-PI) devised by Lee & Ashton (2004) and described by the authors as consisting of '24 facet-level personality trait scales that define the six personality factors named Honesty-Humility (H), Emotionality (E), Extraversion (E), Agreeableness (A), Conscientiousness (C) and Openness to Experience (O).'

Within HEXACO (the title being an acronym of its factors), flexibility is a facet of the Agreeableness domain, and is defined (op. cit.: 335) as:

"One's willingness to compromise and cooperate with others. Low scorers are seen as stubborn and are willing to argue, whereas high scorers avoid arguments and accommodate others' suggestions, even when they may be unreasonable."

It highlights the lexicological difficulties in such work that this definition of flexibility does not mesh with that used by Mitchell, Levin and Krumboltz.(op. cit.) who define flexibility very differently as the ability to react to 'changing attitudes and circumstances'.

### **2.3.6.4 Optimism**

Within TCI, optimism (expressed as 'hope') is a facet of Self-Directedness, one of three character types elucidated by Cloninger (op. cit.: 16), the others being Cooperativeness and Self-Transcendence. In contrast to their description of temperament (see section 2.3.6.2), character dimensions are described as

being' moderately influenced by sociocultural learning and [which] mature in progressive steps throughout life'.

Optimism also features in the composite Personal Attributes Survey (PAS) which includes the Dispositional Optimism scale, in which the authors (Scheier et al., 1994: 1072) modify their original inventory in favour of a revision introduced because:

“...one specific, important mediator of optimism effects is the proclivity to engage in positive reinterpretation and growth.”

The point I take away is the fact that a personality facet is seen as malleable through experience- and perhaps the reflective lens that a training intervention might provide.

Optimism appears too in the VIA inventory, in which (listed with future-mindedness and future orientation) it appears as a synonym under 'Hope' with items drawn from three pre-existing scales (Peterson, 2004: 575).

IPIP includes items from the Well-Being (Wb) scale within the California Psychological Inventory (CPI) as relating to optimism:

“Persons with higher scores on Wb are described as self-confident, good at coping with pressure, alert and energetic, and as able to get along well with others. Those with low scores on Wb are described as ill at ease socially, tense and nervous, and as prone to wilful or headstrong behavior.”  
(Gough and Bradley, 1996: 124)

From this description and consideration of the scale items, Wb seems to look more at the current situation than the future, which makes me question its inclusion within IPIP as an optimism measure, but as the scale's inclusion here was to help create an initial pool of workshop-related questions, it was reasonable to include it.

### **2.3.6.5 Risk Taking**

IPIP contains risk-taking items extracted from The Jackson Personality Inventory (JPI) published in 1976. While the full manual was proprietary and unavailable, Jackson later reported on 'The Reliability of the Jackson Personality Inventory' (Jackson, 1977: 613), in which he comments that:

“Jackson, Hourany and Vidmar (1972) demonstrated there were four facets [of risk taking ], physical, monetary, social and ethical risk taking. Although each of these was distinct, they correlated sufficiently well to justify the use of a broad Risk Taking scale.”

### **2.3.6.6 Diligence**

Diligence appears by name as a facet in only one of the IPIP inventories- the HEXACO-PI introduced in section 2.3.6.3- as a facet of the Conscientiousness domain. The authors (op. cit.:336) suggest that it:

“Assesses a tendency to work hard. Low scorers have little self-discipline and are not strongly motivated to achieve, whereas high scorers have a strong 'work ethic' and are willing to exert themselves.”

Lexicological ambiguity arises again here, in that the HEXACO-PI definition of the facet 'Organisation' is that it:

“Assesses a tendency to seek order, particularly in one's physical surroundings. Low scorers tend to be sloppy and haphazard, whereas high scorers keep things tidy and prefer a structured approach to tasks.”

This is a partial description of the trait I had in mind when adding what I termed 'diligence' to the original Mitchell, Levin and Krumboltz.(op. cit.) typology that I planned to test. Accordingly, HEXACO-PI scale questions relating to 'Organization' were included in the original pool from which workshop-related questions were derived.

### **2.3.7 Literature Support for the Emergent Nine Factor Scale**

As will be seen in section 6.1, the original typology was not supported empirically, and an amended nine factor typology emerged in its place. The thinking about why certain questions appeared to load together in factor analysis is discussed later, but several of the emergent factors are personality facets in their own right and the literature relating to each is now considered.

#### **2.3.7.1 Altruism**

The Revised NEO Personality Inventory (NEO PI-R) includes altruism as a facet of Agreeableness, and is described in the following terms (Piedmont, 1998: 89):

“High scorers on this facet have an active concern for others’ welfare as shown in generosity, consideration of others, and a willingness to assist others in need of help...low scorers...are somewhat more self-centered and are reluctant to get involved in the problems of others.”

The relevance to networking efficacy is the extent to which an individual will put his/her connections at the service of others.

#### **2.3.7.2 Contact Management**

Contact management clearly would not be expected to appear within IPIP as facet of personality, and there is a need to explain just how this potential construct differs from Diligence or Organisation in section 2.3.6.6 above.

While Diligence relates primarily to carrying out intended tasks in a timely manner, Contact Management relates to a set of actions and a way of thinking about connections which lead to the maintenance, strengthening and optimisation of both strong and weak ties. So while a naturally diligent individual may have a greater propensity to be an effective contact manager than others (for example, by being very ordered with storing business card details), a lack of vision as to how best to use that stored data would reduce their score on this facet.

### 2.3.7.3 Openness to Help

The issue of perceived status is an important one in networking. Working with intelligent and motivated workshop participants, I wonder why they do not seek help, advice and information from apparently obvious sources. Possible answers are suggested by Lee (1997), who in comparing help seeking behaviour in the 'collective' world of medicine versus the 'individualistic' world of surgery, found that "help seeking behaviour was highest when the helper was an equal-status peer" and that "males sought more help in collective norms than individualistic norms but for females, the trend was not apparent."

Lee points out that "help seeking also entails costs", listing these costs as:

*incompetence*, as evidenced by (Karabenick and Knapp, 1988) through which power is given away by admitting to problems with a task, or a gap in expertise and knowledge; and

*dependence* on another person, which decreases the help seeker's relative power.

Lee cites work by Pelham & Swann (1989) and others to make the point that:

"Individuals are motivated to maintain positive self-images, and ...seek out information that confirms a positive sense of self and behave in ways that are consistent with this self-conception... By acknowledging incompetence and dependence, help seeking behaviors also run counter to desires to maintain positive self-images... An individual's concern for accruing and maintaining power is called "power motivation." Individuals who have high power motivation are concerned with having influence over others, gaining prestige, and seeking out positions of power and authority... individuals who are high in power motivation will be *less* likely to seek help, and individuals who are low in power motivation will be *more* likely to seek help.... This literature suggests that because women are less likely to use power as a measure of self-worth and are less concerned about whether others view them as powerful or not, losing power is less costly for women than it is for men. Based on this reasoning, one would expect women to have lower power motivation than men and therefore seek help more than men."

Although Lee states that “This is consistent with past research on help seeking which have shown that women consistently ask for help more than men (Rosen, 1983)”, a check back to the primary source reveals a more muddled picture in which Rosen actually writes that “...it appears that males more than females are expected (at least in some Western societies) to avoid the public acknowledgement of needing help, especially of an instrumental sort” [‘instrumental’ help here defined as “limited to the amount and type needed...to solve problems or attain goals for themselves” as opposed to ‘executive’ help seeking in which the “...intention is to have someone else solve a problem or attain a goal on his or her behalf”] (Nelson-Le Gall et al., 1983: 266).

Rosen in turn refers to McMullen and Gross (1983: 252) writing in a later chapter of the same book who point out that while “...almost all the data presented in this chapter are related to health-related help-seeking. Although the conclusion derived from these data- that women seek help more than men- is definitive, whether this sex difference also generalizes to other settings is not yet clear.”

Lee also suggests that people appear more prepared to ask for help from those of equal status, rather than those of higher or lower status and appear less prepared to ask for help from those of higher status than lower.

The issue of status is also linked with physical attributes. Work by Mazur et al. (1984) on the effects of physical features on cadets’ military rank attainment shows the importance of these factors, and whilst we can’t change our features, we can learn to make the best of ourselves to optimise our impact on others. Equally, this knowledge can help the effective networker to see through the mask that impressions based on appearance can create and to avoid the mistake of overlooking or undervaluing those who may appear to be maverick or otherwise unconventional in appearance or style. Harper (2000) reports that:

“Wages have been found to be positively associated with attractiveness (Hamermesh and Biddle, 1994; 1998) and height (Loh, 1993), and negatively related to obesity (Sargent and Blanchflower, 1994; Averett and Korenman, 1996).”

His own work uses data derived from the UK Child National Development Study (described as “a continuing longitudinal survey of individuals living in Britain who were born in the week 3-9 March 1958”) and concludes that:

“In accord with previous studies, our results indicate that, contrary to popular belief, physical appearance is as important for men as it is for women. In particular, we find that, irrespective of gender, those who are assessed as unattractive or of short stature experience significant earnings disadvantage. Tall men receive a pay premium while obese women experience a pay penalty.”

This view is supported by the paper ‘When it comes to pay, do the thin win?’ (Judge and Cable, 2011) in which:

“...the results suggest that both German and American societies reward women who confirm to the improbably thin female standard perpetuated by the media...very thin men, conversely, are punished relative to their average weight peers, and men are rewarded for gaining weight until the point of obesity.”

Most relevant to my own research is the comment later in the paper which avoids making a direct causal link but points to an underlying effect in which:

“...perhaps the weight-income trends that we observed are due to performance in the sense that employees are more able to influence others and get things accomplished when they conform to the media’s ideal body form.”

#### **2.3.7.4 Locus of Control**

Locus of Control (LOC) appears within PAS as a scale devised by Levenson (1981). Writing on ‘Differentiating among internality, powerful others, and chance’, she considers that, being unidimensional (internal vs. external locus of control), Rotter’s 1966 ‘Locus of Control’ inventory does not adequately capture the granularity of LOC, and so offers a LOC Scale comprising 24 items divided into internality (I), chance (C) and powerful others (P) scales, which indicate an individual’s tendency to believe in a

particular source of control. Levenson's comments on this (op. cit.: 54) are relevant to the training environment:

“With a more differentiated view of locus of control, one might devise training programs that could focus on teaching behavioural contingencies geared to the person's present expectation orientation. For example, in the case of a woman who is unsuccessfully seeking a job, who perceives that the world is totally unpredictable, and who believes that she has no personal control, one might wish to educate her regarding those societal forces that operate in predictable ways. Women's consciousness-raising groups appear to function in this educative role. By first teaching that there is a predictable order, the opportunity for learning that systematic effects are operating and how to manipulate them becomes possible.”

#### **2.3.7.5 Contact Maintenance**

Contact Maintenance differs from Contact Management (section 2.3.7.2) in that the former relates to the extent to which an individual makes the effort to maintain an ongoing (if occasional) connection with (primarily) weak-tie contacts. Elements of Diligence or Organisation (section 2.3.6.6) may come into play here because one needs to be organised enough to make the necessary arrangements, but other personality constructs including agreeableness, extraversion and neuroticism are likely to play a part in the decisions made about how and when to make the effort to 'stay in touch' with connections.

#### **2.3.7.6 Persistence**

This is the one factor which carried through from the original typology, so is not considered further here.

#### **2.3.7.7 Clarity of Purpose**

As will be seen later, the 'Clarity of Purpose' factor turned out to be problematic (see section 18.3), but as a personality facet to consider during creation of the new inventory, potential items came from the Planfulness inventory contained within the CPI as Achievement via Conformance (Ac), and is described thus within the CPI:

“... high scores on Ac depicts good organization and use of personal resources, specifically efficient, industrious, intelligent, methodical and organized...[A]ssociated with low scores on Ac are terms

suggesting poor self-discipline ...careless, distractible, impulsive, rebellious, reckless, disorderly and shiftless.” (Gough and Bradley, 1996: 130)

Planfulness also appears in The Multidimensional Personality Questionnaire (MPQ) as the ‘Control vs. Impulsivity’ scale (Co). Self-descriptors of high scorers on the Co scale are:

“Is reflective; is cautious, careful, plodding; is rational, sensible, level-headed; likes to plan her (his) activities in detail.”

This contrasts with low scorers who describe themselves in these terms:

“Is impulsive and spontaneous; can be reckless and careless; makes no detailed plans, preferring to ‘play things by ear’.” (Tellegen and Waller, 2008: 273)

### **2.3.8 Networking and Related Scales**

Numerous attempts to quantify networking activity are reported in the literature, but as I came across them, I found elements within each of them which simply did not fit with either the demography of our workshop participants or with the networking message that we were attempting to convey. It’s worth reiterating that the subject of my research is the efficacy of the workshop intervention presented by myself or my partner, so it was possible to review each scale and scale item through that lens to check for suitability.

Had a useable ‘off the shelf’ networking scale been available, my research might have taken a different direction. My 2008 Transfer Document (on which permission to progress from the ‘taught’ to ‘research’ phase of the DBA is predicated) included an earlier version of this literature review which could not identify any one piece of academic work containing scales which would work for me in their existing format.

For instance, the 1993 scale developed by Michael & Yukl (1993) includes separate items related to ‘internal’ and ‘external’ networking and repeatedly mention ‘work units’ within their questions. Most of the

questions would be useful if re-worded for my own environment, but some of the dimensions I would have expected to be covered within the networking umbrella (e.g. contact management, persistence) are not.

Similarly, Wanberg et al. (2000) investigated the predictors and outcomes of networking intensity among unemployed jobseekers, introducing the concept of 'networking intensity' (nine item scale) and 'networking comfort' (eight item scale). While the items are reported to have a good fit, the fact that the word 'job' appears in 15 of the 17 items precludes my use of these items 'verbatim' given my broader definition of 'networking' than the job search environment on which this paper and the scales are predicated.

The 2001 'Networking Behaviors Scale' developed by Forret and Dougherty (2001) has five factors, derived " ...using a combination of semistructured interviews, open ended survey questionnaires, and items derived from analysis of practitioner and scholarly writings." This promised to be comprehensive, but all the items relate to action rather than mindset. This scale does include a five question contact management element but is again very workplace-oriented as evidenced by a factor labelled 'Increasing Internal Visibility'. The 'Participating in Church and Community' factor questions would probably also have to be reworded to work well in the UK's more secular culture.

It would have been useful to have had earlier sight of a 2008 paper by Wolff & Moser entitled 'Networking: Theoretical Foundations and Construct Validity' (Wolff et al., 2008). Presented initially in German at an organisational behaviour symposium, an interesting aside is that this paper only came to my attention through one of my Project #1 survey respondents. Incorporated in 2009 into a more publicly accessible paper (Wolff and Moser, 2009), personal communication with Hans-Georg Wolff elicited an English language version of their 44 question 4-point Likert-type scale questionnaire. While the original research was done in Germany, Wolff at the time of our personal communication in 2011 was considering whether to replicate it in a different cultural environment. Wolff's questionnaire covers much of the territory I would expect, and had it been available to me earlier, I might have been tempted to use it almost 'verbatim'. However, the number of times that 'company' or 'organization' is mentioned in questions suggest that it might fail to engage those for whom networking is not related primarily to corporate structure.

Recognising that networking efficacy was likely to be a 'cocktail' of factors, I remained on the lookout for scales which might be highly relevant but offered under a different name. One such was the 1997 'Concept of Personal Initiative' from Frese et al (1997) which seemed initially to map to both the 'curiosity' and 'risk taking' elements of the Mitchell, Levin and Krumboltz paper which had so influenced my thinking. However, consideration of their measures (e.g. "I take initiative immediately even when others don't") suggested that while their construct might be correlated to networking efficacy, it would not in itself be a good measure of it.

Frese' source material includes questions adapted from the 1993 Bateman paper which proposes a measure for 'proactivity' in organizational behaviour (Bateman and Crant, 1993). Frese himself describes his adaptation of the questions as making them "more behavioural", which perhaps explains why I warm more to the 17 question, 7-point Likert-type response Bateman scale as being a better representation of what I understand anecdotally to be the twin 'mindset' and 'action' of the networking process.

A highly relevant addition to the literature is the 2008 work by Totterdell (2008), which parallels my own research by introducing the concept of 'Propensity to Connect with Others' (PCO), defining it as:

"... an individual's orientation towards making connections with other people that is not specific to context and that incorporates three related but distinct components: making friendships, making acquaintances and joining others."

Totterdell comments that social network research "has largely ignored the individual psychological characteristics that may shape personal networks." Totterdell also brings together work from both network analysis and interpersonal skills literature by referencing Klein's (2004) finding that "neurotic individuals were less likely to acquire central positions in friendship and advice networks" and other studies which "have also found a positive association between extraversion and the extent to which individuals engage in networking behaviours."

Totterdell posits a network in which PCO is a composite of personality trait (extraversion), behavioural expression (positive affect, advice, friendship) and indicators of adjustment (emotion support, well-being,

attunement, involvement) and tests these propositions in two studies from which he concludes that this is indeed the case (with limitations and caveats). Of particular interest is that of the nine questions on Totterell's PCO scale (three each on propensity to make friends, to make acquaintances and to join others), six (those relating to acquaintance and joining) are mirrored by those asked in my own Projects One and Two.

Treadway's 2010 paper on the interaction of political skill and future time perspective on networking behaviour (Treadway et al., 2010) was of particular interest as it combined use of the Forret & Dougherty scales described above with an 18 item, 7-point Likert-type 'political skill' scale I had not previously encountered. Originated by Ferris et al (2005), the paper makes an early link between political and networking ability:

*"Networking ability.* Individuals with strong political skill are adept at developing and using diverse networks of people. People in these networks tend to hold assets seen as valuable and necessary for successful personal and organizational functioning. By the sheer force of their typically subtle style, politically skilled individuals easily develop friendships and build strong, beneficial alliances and coalitions. Furthermore, because social networks are deliberately constructed structures, individuals high in networking ability ensure they are well positioned in order to both create and take advantage of opportunities (Pfeffer, 1992). Masters of the quid pro quo, they are often highly skilled negotiators and deal makers, and adept at conflict management."

Ferris' final 18 item scale derives from an initial 40 item pool, of which six are specified as being 'networking ability'. Five of these six questions were retained in the final scale. Where this differs from my own approach is that Ferris treats networking as an 'ability' in its own right rather than as a construct. As an example, one of the Ferris items is: "I am good at building relationships with influential people at work." This may be true, but does not indicate what facilitates the process.

The relationship between existing networking scales and my own research is discussed in Chapter 3.

## 2.4 The Network Analysis Literature

The study of human relationships goes back to the Bible, which details much begetting (The Bible). But it was Moreno who coined the term 'sociometry' in the peer review literature (Moreno, 1951) for the measurement of "the evolution and organization of groups and the position of individuals within them".

According to Wasserman (Wasserman and Faust, 1994), "the fundamental difference between a social network explanation and a non-network explanation of a process is the inclusion of concepts and information on *relationships* among units in a study." So I find it surprising that while there is a growing body of literature dealing with social network analysis, an all field keyword search for 'networking' in the sector flagship journal *Social Networks* between its inception in January 1978 and time of writing (January 2013) results in only 55 'hits' out of the 800+ papers which have appeared in that time. Only 4 'hits' result from a search with fields limited to title, abstract and keywords and of these, none attempt a definition of 'networking'. This hints at a dichotomy between the science of networks and the practice/teaching of networking as a life skill, which I would like to help bridge.

There is certainly analysis of, and advice on, the types of network that are needed for different purposes and at different times (Ibarra, 2007), (Ustuner and Godes, 2006) and some academic institutions and consultancies (Cross, 2004) are now using social network analysis tools to diagnose and correct network issues in the business environment.

Of specific interest to me are 'ego-centred' networks, consisting of a focal person (the 'ego'- in this research, a workshop attendee) around whom is a set of 'alters' (others within the company) to which he/she has ties. Burt (1984) offers insights into elucidating network characteristics by asking suitable 'name generator' questions while Marsden (2003), Wasserman (op. cit.) and Groves & Magilavy (1986) alert me to the issues of interviewer effects, measurement error and the issue of open/closed questions respectively.

As a discipline, Organisational Network Analysis (ONA) is gaining in credibility and application as both diagnostic and therapeutic tool, with examples now appearing in the popular business literature (Hindo, 2007) showing (for instance) how ONA has been used to improve the connections within an existing

medical research network with the outcome that (according to the Boston Consulting Group) “In some cases, MRF [Myelin Repair Foundation] thinks this approach may have shaved years off their research agenda.”(Boston Consulting Group, 2007)

One promising bridge between the science of networks and that of personality research is illustrated by the work of Mehra (Mehra et al., 2001), who has examined “how different personality types create and benefit from social networks in organizations”. High vs. low ‘self monitors’ (assessed using Gangestad and Snyder’s 1985, 18 item Self- Monitoring Scale) were mapped against the network topological attribute of ‘betweenness centrality’, originated by Freeman (1979) and described as “a measure of the extent to which each individual occupied a structurally advantageous position, connecting otherwise unconnected others in the friendship and workflow networks.”

What has not been done to date, to my knowledge, is to use network analysis techniques and software as a tool within a longitudinal study to determine the success (or otherwise) of a pre-planned networking skills intervention. An example of how this might be achieved through the use of Organization Risk Analyzer (ORA) software is provided by Merrill et al. (2007) in the environment of public health information management.

## **2.5 The Pedagogical Literature**

In seeking to impart these skills to others, one question to be addressed is whether the chosen teaching format itself is effective. My research question relates specifically to the efficacy of my own chosen method of teaching these skills - a one day workshop – so that it could be argued that further discussion of how teaching could or should be delivered is irrelevant. But what if the workshop format itself is flawed or poorly taught? I have ample anecdotal and quantitative evidence that this is not the case, and the workshop was designed from the outset with differing learning strategies and styles very much in mind. The intent here is to demonstrate through a review of relevant literature that the workshop is well-designed and well-presented.

As long ago as 1911, Thorndike introduced the term ‘learning curve’ into the language and articulated the Law of Effect (Thorndike, 1911) which states that, all other things being equal, responses to stimuli that

are followed by satisfaction will be strengthened, but responses that are followed by discomfort will be weakened. From a personal and/or organisational standpoint, it's clearly important to see results, an important driver being the phrase widely used in NLP: 'if you do what you've always done, you'll get what you always got.'

Numerous 'learning style' models are offered in the literature, and ten of these are grouped by style model (learning process, study orientation, instructional preference and cognitive skills development) and critiqued by Riding & Rayner (1997) before going on to offer a typology first outlined in Riding & Douglas (1993).

I particularly like the Riding & Douglas typology offered for two reasons. Firstly, it extends earlier work by Riding & Cheema (1991) on cognitive styles along two axes: 'analytic-wholist' and 'verbaliser-imager', and proposes an ordering for each of four subgroups in terms of preferred expression and representational style for text, speech, diagrams and pictures. Secondly, Riding carried out a later study (Riding and Staley, 1998) among business studies students (who form an important part of my workshop audiences) using the same typology, which offers interesting and highly relevant lessons about the presentational preferences of the four subgroups. As Riding & Rayner (op. cit.) point out:

"A pedagogy which incorporates style-led differentiation will achieve authentic accommodation of individual differences in the classroom."

If this research can demonstrate a change in mindset or actions after delivery of a one-day workshop, then not only does that validate the format of the intervention itself, but it potentially offers a contribution to the literature through content analysis of what will then be a proven pedagogic tool against the typology offered by Riding & Douglas (op. cit.).

### **2.5.1 The Durham University Learning and Teaching Award (DULTA)**

In parallel with my doctoral research, I undertook and passed the Durham University Learning and Teaching Award (DULTA), and subsequently Fellowship of the Higher Education Academy, which offered an opportunity to learn about pedagogy, course design and delivery through reflection and reflexion. Some of what follows here is drawn from that experience and the dissertation submitted.

The Jenkins & Healey typology to which DULTA exposed me (Jenkins, 2007) caused me to re-examine the content of my teaching. Much of the material I present in a typical workshop remains of the 'information transmission' model typical of research-led teaching. There may be other ways to impart such knowledge, but in the time available and given the breadth of the subject, it seems reasonable to report the research findings of others to create a baseline of understanding.

The exercise and role-play elements of a workshop are more difficult to fit into this framework. They started life as research-based activities, created with nothing but an intuitive appreciation of what works in the classroom. As DULTA broadened my pedagogical understanding, so I redesigned activities to 'draw consciously on systematic inquiry into the teaching and learning process itself' (DULTA handout 2012) and so become increasingly research-informed.

The idea of 'threshold concepts' (Land, 2006) presented on DULTA was completely new to me and offered a new way of considering elements which could affect the success of my teaching. In particular, it made me consider:

- What are the threshold concepts in my own fields of networking and negotiation?
- What evidence do I have that I have imparted them successfully (or not) and how can I improve things?
- What is troublesome knowledge in these fields?

While wrestling with these bullet points, I kept in front of me Donald's useful definition (Donald, 2002) of a 'concept' as:

"a unit of thought or element of knowledge that allows us to organize experience"

My participants all had experience of both networking and negotiation, but what were the key things that I could impart that would lead them to re-evaluate their individual and unique experiences and put them in a new perspective?

In networking, I suggest that the key threshold concept is Granovetter's often cited and counterintuitive work on 'the strength of weak ties' (Granovetter, 1973) and the realisation that (put briefly) how many people you know can be as (or more) important than who you know.

As Land put it while addressing the DULTA cohort, "knowledge needs to be troublesome to provoke students out of their existing state," and students are asked to venture into what Barnett (quoted in Land's DULTA presentation) termed "anxiety-provoking places." The counter-intuitive nature of some networking concepts (e.g. effective networking not being synonymous with extroversion) is such that there are always some participants who simply cannot make that leap.

The pedagogical challenge is to find ways to ensure that all participants succeed in making the mental shift, and I acknowledge the extent to which the notion of 'threshold concepts' has changed my thinking about how to measure the understanding of any given individual. I now have an academic construct on which to pin my increasing concern that the standard business school case study based summative assignment is a poor way of measuring teaching success because it allows a situation in which (to quote Land) "understanding can approximate to a kind of mimicry or lack of authenticity."

The use of case studies for assessment in business education is considered (in the undergraduate context) by Booth (2000). I am reassured by the fact that my use of anecdote and vignettes fits well with the 'best practice' they label 'Mode 2', described as:

“...the use of cases to apply, critique and develop theory against a background of complexity and ambiguity provided by the case: a constructivist, sensemaking activity.”

### **2.5.2 Derivation of Workshop Content**

The workshop may be well-presented and well-taught, but what if the content itself is flawed and is actually imparting something other than its stated aims? Assurance that this is not the case comes both from an historical consideration of the development work that went into delivery of our first ever workshop (Imperial College Business School, 2001), and from a retrospective dissection of our latest slide pack.

Both would show that:

- a) theory and conceptual content derives in large part from academic, peer-reviewed material covered elsewhere in this literature review
- b) other peer reviewed papers are referenced and discussed to help make teaching points. Good examples are 'Estimating the ripple effects of a disaster', (Bernard et al., 2001), used to give a 'real world' example of the 'small world' phenomenon, and 'The structure of scientific collaboration networks' (Newman, 2001) which includes reference to the popular 'Oracle of Bacon' (Reynolds and Tjaden, 2007)
- c) a wealth of non-peer reviewed sources including books, professional journal articles and industry research are referenced in the workshop materials
- d) genuine case studies (sometimes anonymised) give participants confidence that theory really can translate successfully into practice
- e) exercises, role plays and audiovisual material are used to bring concepts to life and to ensure appeal across learning styles

Over the years, the workshop has evolved with material added, amended or discarded as new papers, data and case studies emerge. Much of the workshop content was re-packaged for our book 'The Network Effect' (Newton and Perle, 2011), so further support for the content comes in the form of book reviews, including this by Prof. John Stopford, Emeritus Professor of International Business, London Business School (Amazon.co.uk, 2010) :

"This book combines many useful practical ideas of how to make networking effective AND it shows how you can put it all into practice. We all tend to think we are good at this stuff, but we need more than a nudge to get going consistently. Full of encouragement, this is the book you need to make it happen for you."

## **2.6 The Methodological and Statistical Literature**

There is nothing new about the methodological or statistical approach taken by my research. Throughout the text, rationale is given and referenced for my approach, but there are certain core texts and papers which informed my thinking.

### **2.6.1 Scale Development**

The core text to which I repeatedly turned was *Scale Development*, by De Vellis (2003). A slim volume in itself, it cites a number of papers which I consulted and which are themselves referenced within this dissertation to explain the choices made.

### **2.6.2 Treatment of Likert-Type Scale Data**

Despite assurance that treating ordinal Likert-type scale data as continuous would be acceptable purely on the basis of precedent, I was uncomfortable doing so until finding academic support in the literature for doing so (see section 3.3.2 for detail).

### **2.6.3 Factor Analysis**

Had I known at the outset exactly what was involved in creating a rigorous and academically defensible survey tool, I would probably never have started. Getting to grips with the concepts of exploratory and confirmatory factor analysis (EFA and CFA respectively) has been the biggest educational challenge of the doctoral process.

For EFA, Pallant's excellent *SPSS Survival Manual* (Pallant, 2007) provided a gateway to the papers cited later in this text. CFA is not a technique included within SPSS, so for this I had to turn to the structural equation modelling program 'Mplus' and to invaluable personal assistance from Dr Chris Stride, who instructs in its use at the Institute of Work Psychology, University of Sheffield. His course handbook (Stride, 2010) provided a handrail for an almost vertical learning curve.

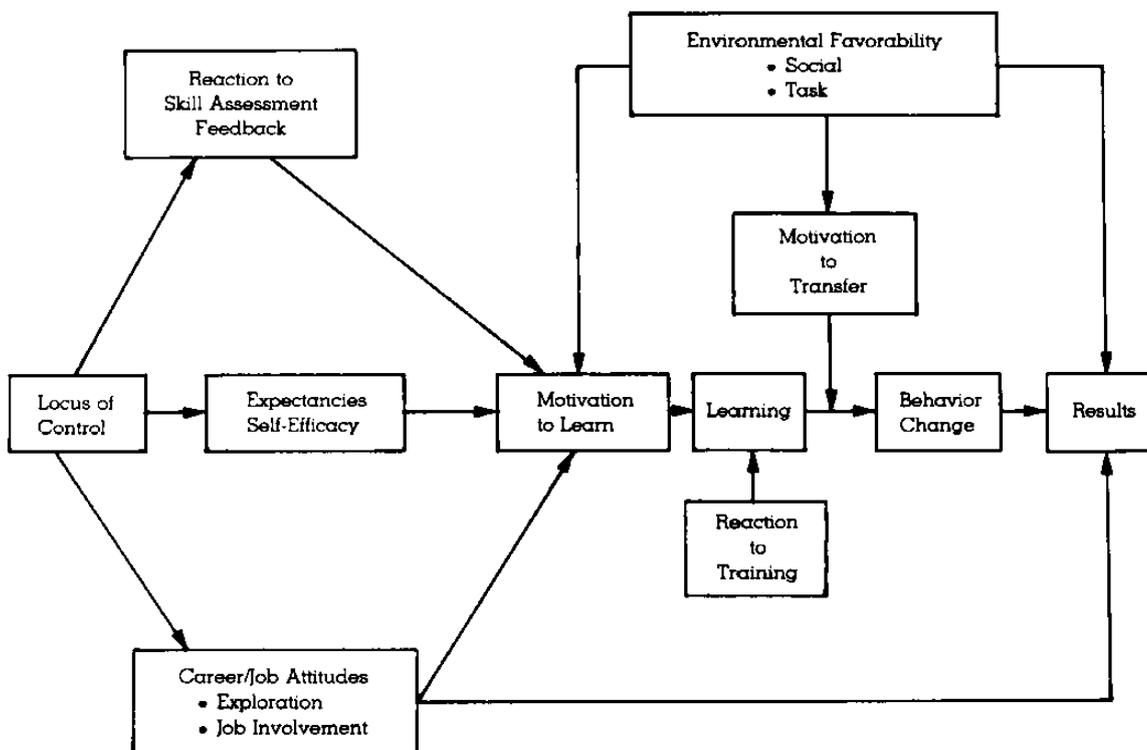
## 2.6.4 Other Statistical Tests

Once again, Pallant (op. cit.) provided the introduction and a mechanistic instruction set for SPSS operation, beyond which I had to go to references cited by her for guidance on the interpretation of my data. These texts are referenced where appropriate within this dissertation.

## 2.7 The Training Evaluation Literature

Given the amount of time and money that corporates and others spend on one day training workshops, it comes as something of a surprise that there still appears to be relatively little in the academic literature regarding their effectiveness in imparting lasting skills or knowledge, or indeed about mapping workshop content to learning typologies. The four level (Learner Reaction, Actual Learning, Change in Behaviour, Business Results) Kirkpatrick Training model was first introduced in 1959 and is perhaps the most well-known commercially,

In 1986, Noe developed his 'Model of the Motivational Influences on Training Effectiveness' (reproduced below).



**Figure 3: Motivational influences on training effectiveness (Noe 1986)**

This he bases on “the multiple measures of training effectiveness described by Kirkpatrick” , commenting that “many of the linkages proposed in the model have not been previously studied.” Later in the paper he expands this to say that “only the relationship between locus of control and the proposed antecedents of motivation to learn (reaction to skill assessment, career/job attitudes, expectancies) have been investigated empirically.”

The problem I see is that while Noe’s talks about ‘training effectiveness’, his model looks primarily at the influences that determine whether seeds will be scattered in fertile ground- not on the quality of the seeds or capability of the scatterer. However, this model does illuminate the potential differences between a self-selecting ‘open’ workshop audience and a typical business school audience.

Foxon (1989), reviewing the field three years later, comments:

“I was initially surprised by the relatively small number of articles on the subject of evaluation... The other impression one gains is of the uneven quality of this material. Much of it is rather superficial and general; some on the other hand is so academic in style it would be difficult for many practitioners to understand or apply... The lack of extensive bibliographies and literature reviews was also a surprise finding. ... There is ample evidence that evaluation continues to be one of the most vexing problems facing the training fraternity.”

Reviewing the literature some 20 years after these comments- and making personal enquiries to ensure that I was not simply searching in the wrong place- the science of training evaluation does not seem much further advanced. As recently as 2007, the Chartered Institute of Personnel and Development (CIPD) in its “change agenda” document entitled “The value of learning- a new model of value and evaluation”

Anderson (2007) makes an almost identical point:

“However, ‘value’ is defined by the receivers of the learning and training contribution and not by the trainers who deliver or facilitate it. There is an urgent need for HR professionals to be able to demonstrate the value of learning to their organisation if senior decision-makers are to maintain their commitment to investment in learning and training.”

## 2.8 Literature Gaps

The 'planned happenstance' typology proposed by Mitchell, Levin and Krumboltz is an inductive typology based on anecdotal evidence rather than research, but of the 14 articles initially identified through ISI Web of Knowledge which directly cited this paper (Appendix C: Papers Citing Mitchell, Levin, and Krumboltz Typology, as not individually referenced), not one actually tests this proposed typology.

As already mentioned, the paucity of 'hits' from a search within fields limited to title, abstract and keywords in *Social Networks* hints at a literature gap between the science of networks and the practice/teaching of networking as a life skill.

The issue of progress in training evaluation has already been highlighted.

Finally, there is a literature gap in respect of a networking inventory applicable outside an organisational or corporate environment.

## 2.9 Linkage Between Literature Review And Research Question

The themes covered in this literature review represent answers to the two core questions we had to consider when developing and refining our networking skills workshop:

- What skills and attitudes contribute to an 'effective' networker?
- What teaching approaches might work to convey these?

While the anecdotal feedback from workshops referenced at Appendix A: Meta-analysis of Networking Workshop Feedback 2001-2013 provided us with evidence that workshops were well-received, the research question posed here demanded deeper insight into how networking efficacy (and specifically a change in networking efficacy) might be measured. This led to areas of the academic literature concerned with network topology, training evaluation and networking-related scales.

Of the research methodologies open to me, I considered that while structured or semi-structured interviews might help me understand what made someone an effective networker, I could not see how to

link such results with a method for determining the success (or otherwise) of our workshop-style training intervention.

For some time, I considered that a 'pre' and 'post' workshop analysis of participants' personal network topology might be a valid quantitative research method, and to this end I attended the University of Virginia Networking Round Table in 2008 to learn about organisational and social network analysis software, but ultimately I could not progress this method for reasons discussed in section 1.4.4 .

Given the very limited contact with workshop participants either prior to, or following a workshop, I concluded that the use of a questionnaire based networking scale seemed to offer the best way forward, and that for reasons discussed in section 2.3.8, I was going to have to develop my own scale.

## **CHAPTER THREE–NOMOLOGICAL NETWORK AND CONSTRUCT VALIDITY OF NETWORKING SCALES**

### **3.1 The Nomological Network of Networking**

The concepts of the nomological network and of construct validity were introduced by Cronbach and Meehl (1955) as a means of addressing the issues surrounding the quality and variety of test validation which existed at that time. Defined as ‘the interlocking system of laws which constitute a theory’ (Cronbach and Meehl, op.cit.: 290), the nomological network sets out the relationships through which construct validity could be claimed. The relationship is phrased thus (Cronbach and Meehl, op.cit.: 291):

“...unless the network makes contact with observations, and exhibits explicit, public steps of inference, construct validity cannot be claimed.”

This section builds on existing work to demonstrate the rationale for a proposed new networking scale and its construct validity.

### **3.2 Rationale for New Scale Development**

The section of the Literature Review dedicated to a review of networking scales (section 2.3.8) highlights specific questions in specific scales which would be problematic to the holistic view of the networking process taken by myself, my business partner and many of those to whom I have spoken who have an interest in the topic. While I recognise that my own definition as to what should be included within the term ‘networking’ may differ markedly from others, it is self-evident that in trying to measure the efficacy of my own intervention, I must use a tool that is capable of doing so.

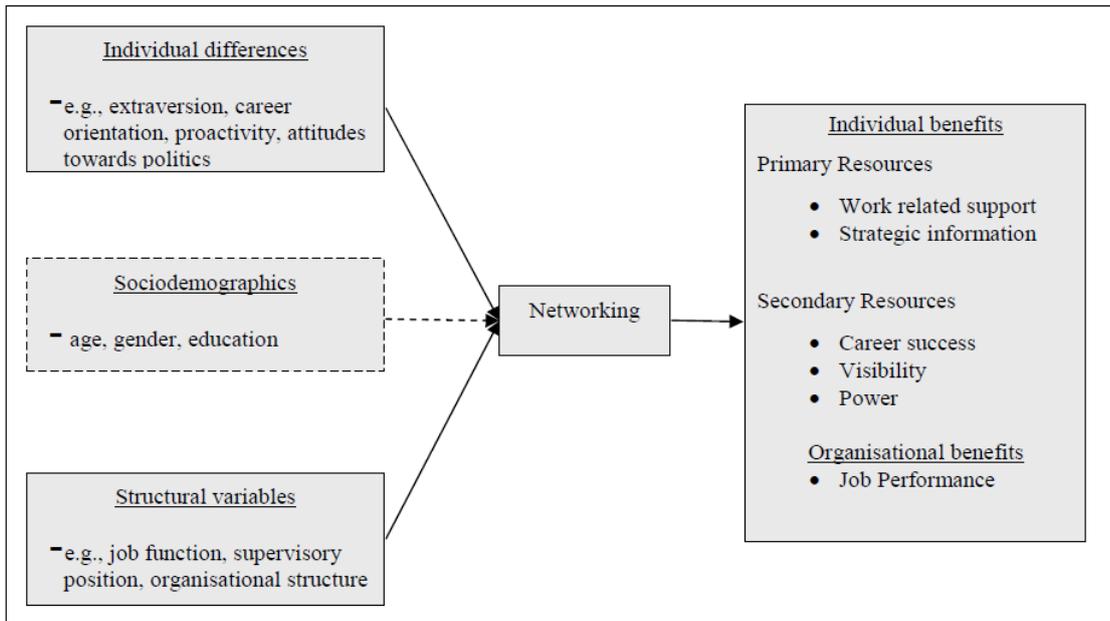
The theoretical underpinning of my proposed scale is addressed later, but a short anecdote - recorded (Newton, 2013) and transcribed here ‘verbatim’- relating an event which occurred as recently as August 2013 (but typical of others) highlights the issue:

"I was on my way to the Hampton Court Flower Show on an intensely hot day, so I was dressed for the weather and wearing a panama hat. Getting on the bus, the only seat available was opposite a lady who completely unbidden said "you look very nice and cool". I thanked her, returned the compliment and we compared notes on the weather. She had been reading a book which she closed when she started talking to me, and I noticed that it was an *Inspector Montalbano* title and that it was in Italian. I told her how much I loved the Sicilian detective, and she explained that she read both Italian and French. I asked whether she taught languages, and she explained that she lectured to foreigners at the National Gallery. The conversation ranged from the National Gallery, to the recent Pompeii exhibition and the fact that my grand daughter was studying fashion at Leeds. "If she's interested in fashion, why not bring her to the National Gallery : I'd love to take you both round and show you how the paintings there reflect changes in fashion." And this all took place within the space of four or five bus stops...but the traffic was slow that day!"

The subject of the story is clearly adept at making, using and maintaining connections in a manner which is not manipulative but clearly beneficial to both parties. She has capitalised on, and derived benefit from, an unexpected opportunity. But the point of this anecdote is that the lady concerned is a retired housewife: while very active socially and with a vibrant network of friends and neighbours, she would simply be unable to respond meaningfully to scale items which enquire into organisational or corporate activity.

A similar picture emerges when inviting freelancers, those in the professions (medicine, dentistry, law and similar), the self-employed, job seekers and the 'outplaced' to consider questions from the networking scales discussed in section 2.3.8. With hindsight, I wish I had recorded such remarks 'verbatim' to use as evidence but I can now only report a general impression.

An indication that such a gap really does exist is provided by consideration of Figure 4 , used to illustrate Wolff, Moser & Grau 2008 (op. cit.)



**Figure 4: Wolff et al. conceptual model of antecedents and consequences of networking**

While the inputs labelled ‘individual differences’ and ‘sociodemographics’ are generally applicable, the examples given of ‘structural variables’ are not applicable to many in the post-industrial UK. Similarly, the outputs in this model focus largely on organisational success which misses the benefit accrued in discovering through a chance conversation that (to give a real example from a deliberately non-work related environment) a designer clothes outlet is having a little publicised one day sale offering huge reductions. So my intent is to broaden the applicability of networking measures.

Wolff, Moser & Grau explicitly acknowledge this ‘work’ bias in their paper’s abstract, which states they will “...show that the proximal construct of networking links distal personality variables to work outcomes”.

### **3.3 Construct Validity**

I stated earlier that had the Wolff et al.(op. cit.) typology been available to me at the outset, I would have been tempted to trial it with only minor modifications. Bringing in scale items from Totterdell’s ‘Propensity to Connect’ scale (op. cit.) would have created an instrument more tailored to my own workshop environment and audience. In hindsight, it is interesting to note the degree to which the scale items in my final iteration map to those included in both these inventories.

For this reason, and because we have much of the referenced source material in common I feel justified in referring back to, and citing from, Wolff, Moser & Grau's 2008 paper 'Networking: Theoretical Foundations and Construct Validity' (op. cit.) to defend the construct validity of my own inventory.

In the introduction, Wolff, Moser & Grau echo the identical concerns which led me to undertake the research reported here:

"...the 'what, why, and how' of the networking construct remain elusive. For example, systematic research on what is (and what is not) networking is lacking. Moreover, important research results are scattered across rather diverse literatures, and practitioners seem to be poorly informed about what remains a 'heffalump' concept."

In the next paragraph, however, the paper pointedly makes the case I made in section 3.1 by describing networking as '... a proximal construct (Kanfer, 1992) that is comprised of specific **work related** behaviors, which are" facilitated" by certain traits.' Indeed, many of the networking definitions from the literature offered by Wolff, Moser & Grau have a 'work, career or job' element within them. This is not surprising, but I do not believe it tells the whole story. Indeed, in their 'definitions of networking' table (Wolff et al., 2008: 4), what immediately stands out to me is the extent that, tabulated like this, so many attempts at definition focus on the work aspect:

'...assist them in their work or career.' (Forret and Dougherty, 2004: 420)

'...inside and outside the organization.' (Michael and Yukl, 1993: 328)

'...manager's immediate superior and subordinates...' (Orpen, 1996: 245)

'...professional visibility.' (Osberg and Raulin, 1989: 26)

'...to get information, leads or advice on getting a job'. (Wanberg et al., 2000: 491)

'...activities an individual entrepreneur undertakes...' (Witt, 2004: 395)

'...to ease work related actions...' (Wolff et al., 2006: 162) but included in references here as English adaptation which appeared in the European Journal of Psychological Assessment (Wolff et al., 2011)

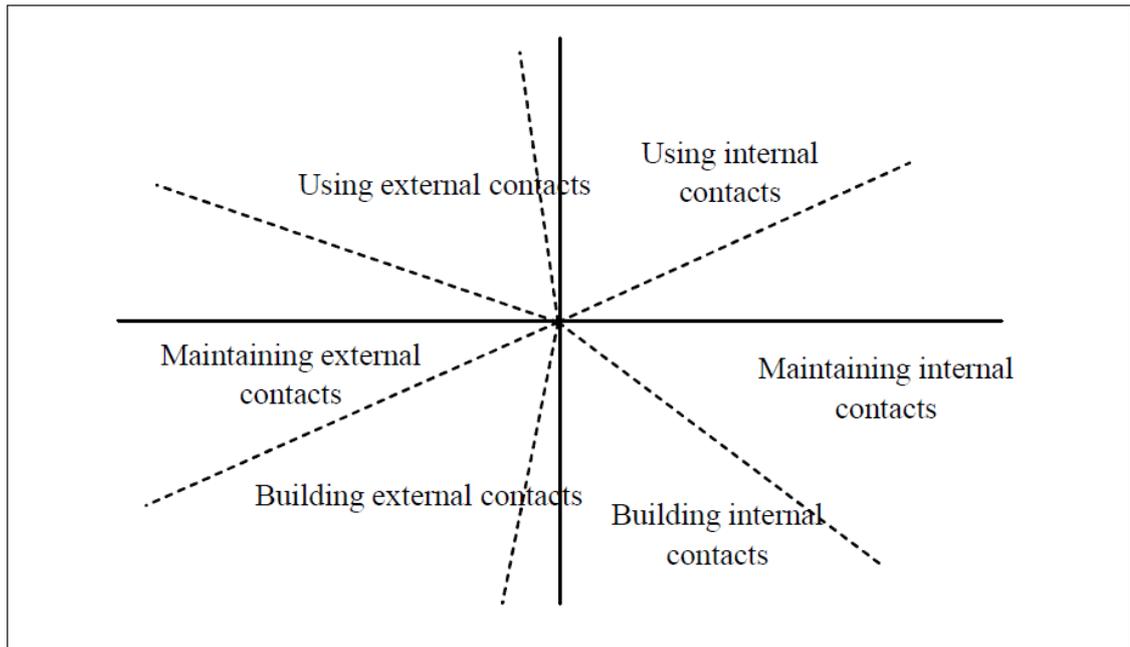
Wolff et al., go on to draw out the distinction between networking and related constructs, making the point that “Networking and social capital are distinct, but related constructs that pertain to different levels of analysis’. Other related constructs they consider are ‘mentoring’ and ‘political behaviors’, stating that ‘From a theoretical perspective, the foci of these related constructs differ on a conceptual level.”

While I agree that mentoring differs from networking in its dynamics, purpose and dyadic nature, I take issue with that idea that political behaviour is conceptually different for two reasons. Firstly, in section 2.3.8, I refer to Treadway’s 2010 paper on the interaction of political skill and future time perspective on networking behaviour. While this was clearly not available to Wolff et al. writing two years earlier in 2008 that “We are not aware of any empirical studies linking networking and political behaviors”, the 2005 Ferris et al (op. cit.) paper makes an explicit link between political and networking ability.

Second, while the term ‘political behaviour’ could be applied pejoratively (as in ‘office politics’) , the thesaurus shows the adjective ‘politic’ to have a number of synonyms - wise, diplomatic, sensible, discreet, prudent, advisable, expedient, judicious, tactful, sagacious - that are all possible facets of an individual with highly developed interpersonal skills. I believe this suggestion to be supported by the breadth of the net cast by the journal’ Political Behavior’ (Political Behavior, 2004) in its call for papers:

“We encourage a variety of approaches to the study of political behavior, including economic (e.g., preference structuring, bargaining), psychological (e.g., attitude formation and change, motivation, and perception), sociological (e.g., roles, groups, class), and political (e.g., decision making) perspectives.”

In their consideration of ‘Measures and Dimensions of Networking’, Wolff et al. cover much the same ground as I have done in section 2.3.8, one key conceptual difference between their stance and my own being illustrated by their figure, reproduced below as Figure 5, showing how in their view, the building, using and maintaining of contacts is explicitly broken down into ‘internal’ and ‘external’ contacts.



**Figure 5: Wolff et al. schematic representation of circumplex pattern of networking subscales**

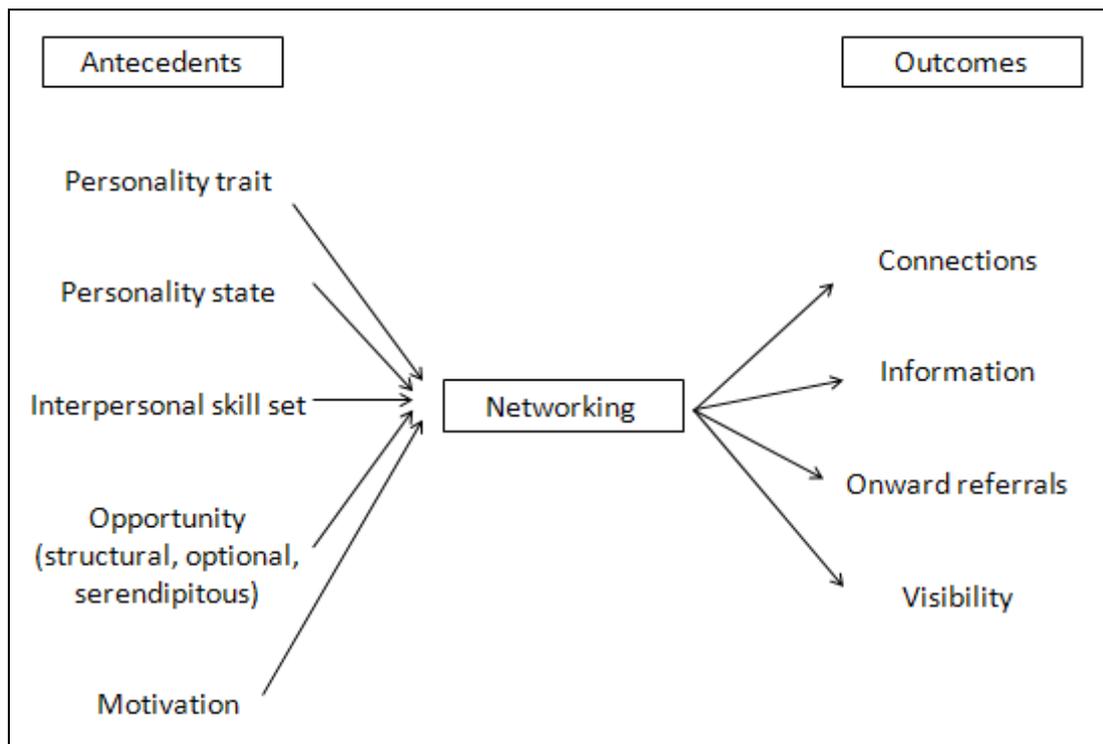
In contrast, my concept is that the ‘mindset’ and ‘actions’ of the effective networker will be in play irrespective of whether networking is with ‘internal’ or ‘external’ contacts, and that my interest – and hence my inventory- focuses on what they are doing rather than who they are doing it with.

### **3.4 Networking Antecedents and Outcomes**

The antecedents of a behaviour can be defined as “ the events or environmental conditions that influence its occurrence” (Simó-Pinatella et al., 2013).

The antecedents of networking are described at length by Wolff et al.,(op. cit.), and are summarised in their figure reproduced here as Figure 4 in section 3.2. My intention here is not to repeat or reproduce their work, with which I largely agree, but to highlight areas in which my perspective of networking antecedents differ.

This difference in perspective arises largely by my stated position (section 3.2) that networking efficacy is not related solely to career or job and that a more encompassing view of networking antecedents is offered by the schema given in Figure 6.



**Figure 6: Newton proposed antecedent schema**

These antecedents are now considered individually:

### 3.4.1 Personality Trait

This antecedent recognises that as reported by Wanberg et al. (op. cit.), networking is related to personality factors. This being so, some people will be 'naturally' better networkers than others, a contention supported by Wanberg's finding that "extraversion and conscientiousness were associated with...higher levels of networking intensity" (op. cit.: 491).

However, Wanberg goes on to make the telling point (op. cit.: 501) that:

"another missing component in the study was an assessment of networking quality on the part of the participants. The extent to which an individual is doing a lot of networking does not tell us whether he or she is doing it effectively."

### **3.4.2 Personality State**

The 'state' vs. 'trait' issue is discussed in section 2.3.2, and the rationale for including it as an antecedent of networking is that if personality trait predisposes some individuals to be better networkers than others, that predisposition can be moderated by the change of state that training can bring about. Support for this contention comes from Wanberg's second networking construct, that of 'networking comfort' (described by the authors (op. cit.: 503) as "a constellation of evaluative beliefs depicting attitudes towards using networking as a job search method") which seems from the list of scale items to be largely a state based enquiry.

The suggestion that 'state' and 'trait' measures can yield very different results comes from the smoking cessation literature in which measures of state, but not trait 'persistence' were seen to be related to negative affect (Steinberg and Williams, 2013).

### **3.4.3 Interpersonal Skill Set**

Personality state and trait might, to use Wanberg's constructs, predispose to high levels of 'networking intensity' and 'networking comfort', but this does not mean (to quote Wanberg again) that "he or she is doing it effectively".

Accordingly, an antecedent of networking must be the possession of an interpersonal skill set which allows the individual to engage others and foster co-operation. This includes conversational skills, body language congruence and awareness, dress sense and cultural sensitivity.

### **3.4.4 Opportunity**

Within 'opportunity' I make the distinction between those situations labelled within the Wolff et al. schema as 'Structural Variables' which may indeed be accorded by hierarchical position or job function (e.g. business development), and the serendipitous opportunities such as those referred to by Jones and Conway (op. cit.) and Williams (op. cit.). As pointed out by Cabral and Salamone (op. cit.), an effective networker may identify and capitalise on an opportunity that the less effective networker, faced with the same situation, has not even recognised.

A third subset of 'opportunity' relates to both personality 'state' and to motivation, comprising the so called 'sliding doors' phenomenon (from the film of the same name) in which an optional networking opportunity is known to exist, but the individual must decide whether or not to participate.

### **3.4.5 Motivation**

Even with every other antecedent in place, motivation to network may still be lacking. In some instances, this could be viewed as an outcome of personality 'state' and 'trait'- for instance, on the one hand the job seeker who faces continual rejection and cannot face going through the process again; on the other the individual with high 'power motivation' whose need for power and influence drives them to network overenthusiastically.

In others, motivation can be seen as a purely structural- the need for a job, to make connections in a new role, a move into a new community or simply a desire for new friends or relationships.

### **3.4.6 Networking Outcomes**

While Wolff et al. segment what they term 'consequences of networking' into individual vs. organisational, primary vs. secondary, I prefer to use the more positive term 'outcomes' and to consider these more generically, primarily because of the 'unintended consequences' that can so often flow from a networking activity- those 'water cooler' type chance conversations which can lead in unexpected directions and the business opportunities that can arise from a very different agenda.

Accordingly, I list the outcomes as connections, information, onward referrals and visibility. These are all supported by the literature, and whether these outcomes lead to new jobs, new projects, new relationships or new products is actually a distal concern.

## CHAPTER FOUR – PROJECT #1: PILOT STUDY & QUESTIONNAIRE DEVELOPMENT

### 4.1 The Mitchell, Levin & Krumboltz Typology

A key source paper already mentioned as part of the literature review but reprised here because of its role in the development of Project #1 was the 'Planned Happenstance' paper by Mitchell, Levin and Krumboltz (Mitchell et al., 1999) . Writing for career counsellors who have traditionally tried to take luck out of the equation, the authors explain that:

“Planned happenstance theory includes two concepts: (a) Exploration generates chance opportunities for increasing quality of life, and (b) skills enable people to seize opportunities.”

The paper goes on to suggest that:

“Career counsellors can assist clients to develop five skills to recognize, create and use chance as career opportunities. These five skills and the accompanying definitions are as follows:

1. Curiosity: exploring new learning opportunities
2. Persistence: exerting effort despite setbacks
3. Flexibility: changing attitudes and circumstances
4. Optimism: viewing new opportunities as possible and attainable
5. Risk Taking: taking action in the face of uncertain outcomes”

This is an inductive typology based on anecdotal evidence rather than research, but of the 23 articles identified which cite this paper (listed at Appendix C: Papers Citing Mitchell, Levin, and Krumboltz Typology) not one actually tests this proposed typology.

One immediate question is whether it makes sense to base a research project on a typology which is intuitively attractive but untested. But the whole point of Project #1 is to test a hitherto untested typology, and the decision to do so was bolstered by the reputation of the journal (Journal of Counseling

Psychology) in which the typology was reported as calculated by ISI Web of Knowledge Journal Citation Reports. These results and a brief discussion of them are attached as Appendix D: Journal Citation Reports on *Journal of Counseling & Development*.

#### **4.1.1 An Amended Typology**

This 'planned happenstance' typology appears to encapsulate a number of the traits possessed by effective networkers. However, I believe (from observed behaviours) that this typology is incomplete in that it omits any reference to what I have termed 'diligence' - the organisational and data management skills necessary for the effective networker to maintain connections, deliver on promises and get things done. Adding the concept of 'diligence' to the original Mitchell, Levin and Krumboltz typology yields a revised typology which I consider to be more likely to capture all the skills of the effective networker.

Accordingly, the proposition for this project is:

**...that a questionnaire based on an amended version of the Mitchell, Levin and Krumboltz typology provides a satisfactory model of networking mindset and actions.**

#### **4.1.2 Pilot Questionnaire Design**

A questionnaire was designed with ten questions (five positively keyed and five negatively keyed) on each of Mitchell, Levin and Krumboltz's five networking attributes plus the proposed 'diligence' attribute, plus two 'honesty' questions and two questions asking directly about self perceived networking effectiveness.

Each question was designed to capture a specific aspect of networking-related activity, rather than a generalism: whereas a personality-focused questionnaire such as the Curiosity and Exploration Inventory (CEI) (Kashdan et al., 2004) asks "When I am actively interested in something, it takes a great deal to interrupt me," this does nothing to capture curiosity as a mindset capable of yielding new information or new contacts, or being curious enough about an acquaintance's situation to be able and prepared to help them.

With this in mind, items from IPIP scales relating to each facet of the Mitchell, Levin and Krumboltz typology and from all available networking related scales were used as a starting point to develop a new set of questions which mapped that facet to the content of the workshop, and which seemed likely to be able to reflect a change in mindset or action if the workshop were indeed effective. A list of these initial IPIP scale items is at Appendix B: Existing Personality Scales Pool For Project #1 Questions, but scale items from other networking scales are not reproduced.

Question design followed the following flow:

- Does the scale item relate to networking as understood and taught by myself and my business partner? If so the item was retained, if not the item was discarded
- Does the item reflect a networking 'mindset' or 'action' that a training intervention is capable of influencing? If so, the item was retained. If not, consideration was given before discarding as to whether the item could be suitably reworded
- Is the item worded in a way that individually, and in concert with other items, is likely to yield a useful response capable of analysis?
- Into which facet of the amended Mitchell, Levin and Krumboltz typology should the item be placed?

In line with best practice as described in Harrington (2009 :16) referencing Abbott (2003), potential questions and their wording were reviewed in consultation with business colleagues and business school academic staff resulting in 64 questions whose order was randomised by picking questions out of an envelope, and set up in SurveyMonkey for online completion such as to make it impossible for a respondent to submit without all questions being answered, for two or more surveys to be submitted from the same IP address and for a respondent to re-enter and change their answers after the questionnaire had been submitted.

After initial randomisation, all respondents were presented with questions in identical order.

## **4.2 The Pilot Study**

The pilot study described here was conducted in 2008 and submitted as the deliverable assignment for the DBA 'Business Research Methods' module.

### **4.2.1 Pilot Study Sample Population**

The pilot questionnaire (attached as Appendix E: Effective Networker Online Questionnaire & Scoring) was trialled with 13 email invitations sent to people known to me and/or my business partner to be highly effective networkers (listed with a brief biographical note at Appendix F: Highly Effective Pilot Study Networkers & Reasons for Selection as are some later respondents), evidenced either through their teaching/promoting of the subject or through demonstrably effective networking ability in a business and personal context. I recognised at the outset that this selection method might skew the dataset towards people who are a similar age and background to the researcher, and that the results obtained may not be applicable to a different generation or culture.

To avoid the risk of skewing the results, respondents were not told at the outset that they had been selected because of their perceived networking ability. All invitees participated.

### **4.2.2 Data Analysis: Lessons from a Pilot Study**

The pilot study conducted for Module Five of the DBA (Business Research Methods) provided an opportunity to work on a dataset of 13 respondents.

Of the various validity tests available, content validity was provided by my business partner who agreed that the questions being posed did seem likely to elicit the dispositions of the effective networker. Additional content validity was provided anecdotally by respondents with comments made to me such as "good questions" and "made me pause for thought".

Construct validity will be an important element of the final questionnaire, as I hope to be able to use the same instrument over a number of years with different audiences.

Predictive validity of networking ability is less important, but if the questionnaire is found to have this, it may be a useful research tool as well as having commercial diagnostic application.

Initially, I planned to use 'test, retest' as a reliability measure (retesting respondents a month after initial submission and analysing correlation co-efficients) but opted instead for internal consistency reliability using Cronbach's Alpha as a more useful test of the homogeneity of each of the six dispositions being measured.

The dataset for the 13 responses obtained was downloaded from SurveyMonkey in Excel format and responses coded from 1-5 along the 'Strongly Disagree' to 'Strongly Agree' Likert-type scale, there being no apparent reason to deviate from the custom and practice of treating Likert-type scores as interval level data. Support for doing so comes from Howell (Howell, 1992) and from a study by Parker, McDaniel & Crumpton-Young (2002) in which:

"26 participants provided interval data in response to 260 questions asked on 5-level Likert scales without integer anchors. This suggests that we can reliably use parametric hypothesis tests such as t-test and ANOVA, as well as measures of association such as regression and correlation."

Additionally, Harrington (op. cit. p. 45), referencing Cohen, Cohen, West & Aiken (2003) states that:

"...it may be possible to treat the variables as continuous when there are at least five response categories, the sample size is sufficiently large, and the data are approximately normally distributed."

Data were then imported into SPSS. Pearson's correlation was calculated as a reliability test for each of the dispositions in turn (10 questions each). Of the 60 questions analysed ('honesty' and 'overall' questions were omitted as not being relevant to this test group), 19 returned a value less than 0.3, indicating a poor correlation with all other questions in their group, and were removed from further analysis.

The remaining 41 questions were used to calculate Cronbach alpha of 0.648 for the survey as a whole as an indication of internal consistency. Iterative removal of a further seven questions conferred the dual benefit of reducing the survey to a more acceptable length for practical delivery while also raising alpha to 0.800.

Given that this survey is multidimensional rather than a single scale, it is evident that factor analysis of the component parts would lead to a more useful assessment of which questions to keep and which to discard than struggling to raise Cronbach's alpha to an arbitrary 'acceptable' level, but I recognised that a much larger number of responses would be needed to permit this.

What emerged from this pilot would have been a questionnaire of 38 questions (34 dispositional plus two honesty and two self perception questions) of which eight relate to diligence, five to curiosity, five to risk taking, seven to optimism, four to persistence and six to flexibility.

SurveyMonkey logs show that time taken to complete the 66 question survey to have been typically around eight minutes, so no onerous time demand was being made on respondents.

#### **4.2.3 Ethical Considerations**

No ethical issues were identified that would affect the conduct of the pilot or expanded study, and an ethics 'pro forma' was submitted to Durham Business School outlining the proposed methodology.

### **4.3 Expanding the Study**

It might have been possible to use the outcome of the pilot study to create an operationalised questionnaire, but it was evident that a more robust questionnaire was likely to result from a larger sample size. This would enable the use of exploratory and confirmatory factor analysis techniques to determine whether the proposed six axis typology could be supported by the data.

#### **4.3.1 Questionnaire Amendments**

Prior to expanding the sample size, a key question was whether to continue to use the original 64 question survey employed in the pilot study, or whether to use the modified version which would have

resulted from removal of those questions which failed the Pearson/Cronbach tests as described in section 4.2.2 above. As the pilot study sample size was so small in comparison with the number of cases needed for factor analysis (see below), I decided to continue to use the questionnaire in its original form to avoid the potential risk of losing good questions too early in the process.

By this stage, I had also decided that the 'honesty' questions used in the pilot study served no useful purpose, but these were retained to ensure a 'level playing field' between early and later respondents given that recruitment into the study had been continuing between completion of the pilot study and the point at which a major expansion of the sample was contemplated.

As detailed below, an additional two questions, placed last on the questionnaire, were presented to the 'effective networker' population in an effort to elicit onward referrals.

#### **4.3.2 What Constitutes a Large Enough Sample Size?**

In the early days of the project, I had grossly underestimated the number of data points I would need in the creation of a new survey tool, accepting that, as Roscoe (1969) suggests:

“In *ex post facto* research, in most experimental research, and in all research where the dependent variable is of low reliability, the use of samples 30 or larger in size is recommended.”

This was before I understood the need for, and the demands of, factor analysis. Hair et al. (2006:98-99) offer the 'rule of thumb' that there should be a minimum of five times as many observations as variables, and preferably 10 observations per variable.

With 10 questions per axis and six axes in the proposed typology, this total of 60 variables would require an absolute minimum of 300 cases and preferably 600 to be amenable to a defensible factor analysis.

One could perhaps interpret Hair differently, treating the proposed typology as six discrete scales, each of ten variables. This would mean a minimum of 50 cases and preferably 100 for factor analysis, but doing so would necessitate the assumption that the six axes were orthogonal and could indeed be treated as

discrete. As there was no evidence for this at this stage, I decided on the more conservative approach and to treat the questionnaire for this purpose as a single scale with 60 variables.

It was immediately evident that achieving such a large sample size of 'effective networkers' was going to be problematic both in terms of time and in identifying enough suitable individuals.

Grappling with this issue, an eventual insight was that the nature of factor analysis as a mechanism for reducing inter-correlations to a smaller number of sub-scales was such that it was irrelevant whether those surveyed were effective networkers or not: the crucial element was not how individuals answered individual questions, but whether patterns could be discerned as to how groups of questions were answered. From this point of view, the response of a poor or indifferent networker would be as valuable to the study as that of a highly effective respondent.

This realisation opened the door to new ideas on data acquisition which not only served the needs of this project, but also helped lay the groundwork for Project #2. The three methods used to acquire sample data are detailed below.

#### **4.4 Identifying Suitable Populations**

To create a suitable sample for factor analysis, the only qualifying criterion was to identify respondents who might reasonably be expected to truthfully complete an online questionnaire. Of the three target populations identified, each had different reasons to be honest in their responses, and the 'opt in' nature of the request to participate acted as an additional filter for those who might otherwise have returned incomplete or spurious responses.

##### **4.4.1 'Effective Networkers'**

The pilot study was conducted using data from 13 personal contacts known by me and a longstanding colleague to be highly effective networkers evidenced (as offered in section 4.2.1, above) either through their teaching/promoting of the subject or through demonstrably effective networking ability in a business and personal context.

As originally envisaged, the 13 pilot study responses would be added to as and when 'effective' networkers came to the attention of myself or my business partner, creating a gradually increasing sample size. However, it became evident that this approach would be insufficient, both in time and in reach: if we assume for a moment that the most effective networkers represent the top 10% of the networking population, then finding 30 such people means having an acquaintance base of some 300 who one knows well enough to be able to accurately rate their networking abilities.

An easier route to building a large sample size would have been to accept self-recommendation, but ten years of running networking workshops has demonstrated to me that self-assessment of networking efficacy is unreliable: consider at one end of the spectrum the boorish individual who thinks that he is the life and soul of the party and an excellent networker, but is actually alienating everyone he encounters; or the reserved individual who feels themselves to be poor at networking but one then discovers is highly effective at putting people in touch with others, and so 'making things happen'.

The solution to the problem came as an insight that an effective networker should be able and prepared to harness their own network in response to a request for help from a colleague, and this idea was operationalised and incorporated into the online questionnaire from 8 Jan 2009 onwards as a final question (which was also asked retrospectively by email of all prior respondents):

Is there someone known to you **personally** who immediately springs to mind as a highly effective networker (bear in mind that I am trying to identify the 'best of the best'), who would be able to answer 'yes' without hesitation to all of the following and so would be a valuable addition to the research sample:

- a) Do you think that networking is important to your business life?
- b) Can you point to and report a specific episode/occasion when you have benefitted from your own networking activity?
- c) Can you identify and report a specific occasion when you have used your own network to connect two other people to their benefit (not yours) or given someone information that has benefitted them rather than you?

Response options available to respondents were:

- a) Yes, I know just the person you should invite. Here are their name and contact details  
[space for text entry here]
- b) Yes I know just the person you should invite but let me check with them first whether they're happy for you to contact them
- c) Yes, I know just the person but I'd rather not involve them
- d) No, no-one comes to mind

An issue which now became apparent was the need for a defensible rationale for the acceptance of some onward referrals and the exclusion of others. After all, if there had been a pre-existing quantifiable method of identifying such individuals as being 'effective', this research project would be unnecessary.

So, building on the idea of selection on the basis of 'teaching/promoting of the subject or through demonstrably effective networking ability in a business and personal context', all onward referrals were screened according to their responses to the following three questions:

1...Do you think that networking is important to your business life? (rationale: does the respondent think that networking is core rather than an 'optional extra')

2...Can you point to and report a specific episode/occasion when you have benefitted from your own networking activity? (rationale: has the respondent knowingly benefitted from their networking activity. Inability to benefit from such activity might indicate a lack of expertise, whilst inability to recognize such benefit would indicate a lack of social awareness)

3...Can you identify and report a specific occasion when you have used your own network to connect two other people to their benefit (not yours) or given someone information that has benefitted them rather than you? (rationale: an important element in effective networking is the recognition, intuitively or consciously, that being prepared to offer time, contacts and help is ultimately more rewarding than networking simply for what one can get from others)

Only those who answered positively to all three and included supporting narrative to questions two and three were invited to continue to the main questionnaire. Filter questions were asked in a separate email not only to ensure that the questionnaire itself was mostly push button and easy to complete, but also to ensure that all participants were exposed to an identical presentation of the main questionnaire.

Those onward referrals who failed to respond to my initial invitation email received at least one reminder (to reflect the fact that emails are overlooked and people are busy), but failure to respond to a second reminder would select against that person as not having the networking mindset of giving time/thought on someone else's behalf, especially as they had been referred to me by someone they knew and should have been prepared to respond on that basis alone.

While using these questions in isolation are hardly sufficient in themselves to identify an effective networker, they act as a 'reality check' when told by an acquaintance that "you should include [named person] in your survey because they're the best networker I've ever met." But under whose definition of networking efficacy? Defence of my 'effective networker' selection process comes in three parts:

- a) Granovetter's 1973 seminal paper 'The Strength of Weak Ties' (op. cit.) showed that people get crucial information about new opportunities not from those close to them, but from those on periphery of their network- who have access to different information. But in order for that information to be used, the information donor has to have the potential recipient 'front of mind' and to have current contact details. So a core competence of an effective networker is to manage to remain 'front of mind' enough with a wide range of people, for the right reasons, while also keeping contact details current (which means finding ways to stay in touch), because it's no good being 'front of mind' if that person can't contact you easily with that crucial information.

Hence, asking people (who I already rate as highly effective, by virtue of their understanding and application of criteria taught in our workshops) who *they* know that immediately springs to mind shows the person being referred as already having succeeded in a core competence of a networker- being 'front of mind'.

- b) As I am testing the Mitchell, Levin & Krumboltz typology (op. cit.), this method of finding 'effective' networkers offers what in mathematical terms might be a first iteration or approximation- certainly, some of those 'effective' networkers will be stronger in some areas than others (e.g. perhaps better at face to face meetings and less good at following up, while another might be better at persisting with phone calls than at face to face events), but at the sample size I am trying to achieve, those effects will be smoothed to provide a model of 'gold standard' practice and outliers can, if necessary, be removed. To define 'effective' networking broadly as ability to stay front of mind, be thought of a 'good at it' by your peers and be trusted enough to be referred to seem reasonable inclusion criteria.
  
- c) The three filter questions I ask of potential respondents shows immediately whether they 'get it', and forces them to come up with an example when they've used their own network successfully- but more important, an example of when they've harnessed their own network for the benefit of others: that to me is the key. The answers I have to these questions form part of the research data, and the results from these people show a consistent level of altruistic activity.

This identification process is ongoing, but at time of data analysis, I had identified 60 'effective networkers' through a referral chain which will form part of the Project #2 report, as will responses to the filter questions.

More could have been added if I had been less conservative in limiting the number of onward referrals accepted from certain well-connected individuals. The rationale here was that I wished to include only the most highly rated onward referrals rather than risk 'watering down' the sample.

#### **4.4.2 LinkedIn Groups**

Since 2005, all those who have attended a workshop or presentation run by myself or my business partner have been eligible to join a closed group on LinkedIn, the online business network. At the time of this project, membership of this Management Advantage group stood at 710 (July 2010) representing a

'take up' of 47% of those who had been sent an invitation, and it seemed that this would be a sensible group to harness given that:

- a) they would all be attuned to the benefits of networking and the importance of responding to a colleague's request;
- b) all members knew myself or my business partner personally as a workshop leader and presenter;
- c) the very fact of their membership of our LinkedIn group was indicative of a willingness to connect.

Invitation to participate in the study was made as a group announcement, delivered by email and containing a URL link to the SurveyMonkey questionnaire.

Response rate from this group was excellent, encouraging me to expand recruitment to other LinkedIn groups of which I was a member, or could legitimately gain access. Selection of groups was arbitrary in that had I needed more responses, I would have opened the questionnaire to more groups. In the event, I had to close recruitment to avoid being swamped with responses after a cut-off date dictated by the need to commence data analysis to meet an externally set DBA project delivery timeline.

The range of response rates from different groups is in large part attributable to the manner in which the request for participation was promulgated: in those groups in which I could arrange for a 'forum announcement' (a mechanism which posts the message on the LinkedIn website and also emails all members), the resulting visibility meant that participation was appreciably higher than those in which the message was posted simply as a member's contribution (with no accompanying email) which could easily be missed. Reasons for having to resort to the latter mechanism were either a lack of responsiveness by the group manager (who is the only one with privileges to post a 'group announcement', or resistance by that person to making a 'forum announcement' for fear of it being perceived as 'spam'.

No effort need be made at this stage to determine the networking efficacy of these 'LinkedIn' respondents: their responses are used here solely to facilitate factor analysis, but one can surmise that their willingness to participate, the fact that they have taken the time and trouble to complete the questionnaire, and the raft

of responses asking to be kept abreast of this research all point to a self-selecting level of networking efficacy higher than would be expected from a random sample.

Indeed, for those groups in which a 'group announcement' could be made (that is, all group members notified directly by email, so little excuse other than spam filter setting or changed email address not to have seen the request), it could be suggested that response rate is a suitable proxy for networking efficacy: that is, if a group returns a 5% response rate, then those who do respond represent the top 5% of networkers within that group. One might cynically argue that those who respond are not the best networkers, but those with most time on their hands, but the fact remains that what these people have done is make themselves 'stand out from the crowd': an important facet of networking.

**Table 2: Project #1 response rates**

LinkedIn Group	Group Announcement?	No. Respondents	No. in Group	Response Rate (%)*
Management Advantage	Yes	108	712	15%
RAF Officers	No	11	443	2%
London Business School Alumni	No	9	3,371	<1%
Old Pauline Alumni	No	27	411	6%
London Business School Sloan Alumni	No	10	920	1%
Durham Business School Alumni Service	Yes	82	744	11%
OU Business School Alumni	Yes	520	3,933	13% **

\* approximate and mildly under-reported, as group size recorded several months after data collection ended

\*\* would have been larger had I not enforced a cut-off date

Additional responses were obtained from five workshop participants who I happened to work with during the data collection period.

#### **4.4.3 “Poor Networkers”**

The contribution made by this group toward the Project #1 sample is very small, but the methodology of their selection is described here primarily because of its importance to Project #2.

Whilst it would be legitimate for Project #2 to compare the mindset and actions of a group of highly effective networkers against those of a more generalised sample, it occurred to me that, having given significant thought to the problem of identifying and recruiting effective networkers, it would be more powerful to try to find an equally valid method of identifying those at the opposite end of the networking efficacy spectrum.

But doing so was problematic: whilst one can ask the question “who do you know who is really good at this stuff?”, trying to discover who is really poor at it is unlikely to elicit a useful response as a) people don't want to appear rude; and b) almost by definition, poor networkers will be much less visible. Self-referral was ruled out for the same reasons as for the ‘effective networkers’ group.

Taking as a starting point the premise that ‘poor networkers’ might be less likely to be able to harness and activate their networks in order to effect a job change, it occurred to me that outplacement agents (consultants appointed by companies to help those made redundant to find new employment) and career coaches might come across exactly the sort of person I was seeking to recruit in this group.

A number of issues became apparent through discussion with outplacement consultants and career coaches already known to me:

- a) why should a career coach risk their credibility by referring a client to my research? Often, their clients' career aspirations were in ruins, their egos in tatters and they wanted help, not to take part in a research project.
- b) what would they get out of the referral process?
- c) what would their client get out of the process?
- d) how would they know which clients to refer to me?

The need for a ‘deliverable’ that coach and client both found useful was obvious, and the solution was to present the identical questionnaire as a diagnostic tool that outplacement agents and career coaches could use to help those clients for whom, often at first meeting, it became apparent that a lack of networking efficacy was a major hurdle in their job search.

The process developed was that suitable clients were presented with a two page introduction to what was termed the Newton Networking Inventory (NNI) attached as Appendix G: Newton Networking Inventory Introduction to Outplacement Agents. I felt that giving the questionnaire a name would give it more credibility in the eyes of those used to the corporate world, and make it look less like a work in progress. I also took the view that even if the proposed typology was ultimately not supported, the individual questions still had relevance and validity to those engaged in the job search.

Having agreed to participate, the client would be emailed the URL of the SurveyMonkey questionnaire, and the coach asked to submit the following information to me as a means of justifying their selection of the client as a poor networker. It was made clear at the outset that only those clients rated 'poor' or 'very poor' were eligible to participate:

**Consultant's subjective perception of respondent's overall networking effectiveness at time of questionnaire completion:**

This may reflect any combination of their attitude, ability or behaviour, but the idea is to offer an overall snapshot of where they sit compared with their peers.

Please select one only from the options below:

- 1...Well below that expected of someone at this level
- 2...Below average
- 3...Average
- 4...Above average
- 5...Highly effective and stands out from the crowd in this respect

Are there one or more specific things you can point to which caused you to give the score above?

If so, please describe below with bullet points, text or anecdote:

In effect, this response sheet provided a 'mirror image' selection process for 'poor networkers' that the onward referral question provided for 'effective networkers'.

A typical 'deliverable' provided to the coach for use as a discussion document with their client is shown at Appendix H: Newton Networking Inventory Sample Report, comprising a six axis summary of the client's scores, a comparison with the mean scores exhibited by the 'effective networker' group and a list of those questions relating to axes in which the respondent's answer different by one or more scale points from those of the 'effective networker' mean.

Recruitment to this group was slow, being subject to a number of bottlenecks including:

- a) goodwill of the outplacement agent/coach
- b) identification of suitable clients
- c) gaining participation from clients
- d) keeping the need for respondents 'front of mind' with busy outplacement agent/coaches

I actively canvassed new sources of referral from within the outplacement, recruitment and coaching industries given the importance of this group to Project #2.

#### **4.5 Project #1 Data Collection Summary**

Questionnaire responses recorded up to the cut-off date were as follows:

**Table 3: Number of Project #1 questionnaire responses**

LinkedIn Groups	767
Workshop Participants	5
Effective Networkers	57
Poor Networkers	4

Recruitment in the 'effective' and 'poor' networker groups continued, being core to Project #2, and recruitment from 'LinkedIn' groups can be re-opened at any time (for example, to test an amended questionnaire).

## **CHAPTER FIVE – PROJECT #1 RESULTS AND ANALYSIS**

### **5.1 Treatment of Raw Data**

Of the 836 responses received, 11 cases were removed because they had given either no name or email address or a spurious one. I considered that failing to give these data in a questionnaire relating to networking activity was strange, and the risk that these respondents had just run through giving random answers to see what it was about was such that it was safer to exclude them.

Those giving one or other of a name or an apparently valid email address only were left in as I felt that the fact they had identified themselves made it more likely that they had completed the questionnaire properly.

Of the remaining 825 cases, none had missing data and responses were corrected for negative scoring.

### **5.2 Factor Analysis**

The appropriateness of using Factor Analysis was determined using a number of criteria described below.

#### **5.2.1 Sample Size**

As reported in section 4.3.2 above, Hair et al. (op. cit. pp. 98-99) offer the 'rule of thumb' that there should be a minimum of five times as many observations as variables, and preferably 10 observations per variable. With 10 questions per axis and six axes in the proposed typology, this total of 60 variables would require an absolute minimum of 300 cases and preferably 600 to be amenable to a defensible factor analysis.

Kline (2005), quoted in Harrington (op. cit. p. 46) in relation to Confirmatory Factor Analysis, suggests that "greater than 200 is 'large', which is probably acceptable for most models."

Tabachnick and Fidell (2006:613), are quoted in Pallant (2007:181) as having reviewed the issue of sample size and suggested that "it is comforting to have at least 300 cases for factor analysis." Nunnally (1994) again quoted in Pallant (op. cit.:181) recommends a 10 to 1 ratio of cases to factors.

The sample size of 825 meets all these criteria, even with the data set split in two for exploratory and confirmatory factor analysis.

### **5.2.2 Bartlett's Test of Sphericity**

Hair et al (op. cit.:99) reported in Graham (2009:49):

“...provides the statistical probability that the correlation matrix has at least significant correlations among at least some of the variables...The researcher should note, however, that increasing the sample size causes the Bartlett test to become more sensitive to detecting correlations among the variables.”

The value of Bartlett's test of sphericity for the 825 case sample was significant (i.e.  $<0.05$ ) at 0.000 (rounded by SPSS to three decimal places).

### **5.2.3 Kaiser's Measure of Sampling Adequacy**

As also reported in Graham (op. cit. :49), Tabachnick and Fidell (op. cit. :614) state that:

“Bartlett's test of sphericity is notoriously sensitive and is only recommended for use if there are less than 5 cases per variable...[and] suggest a more sophisticated test using Kaiser's measure of sampling adequacy, with a value of 0.6 and above required for good factor analysis. Hair et al. comment that measures of sampling adequacy can be interpreted as follows: 0.80 or above, meritorious; 0.70 or above, middling; 0.60 or above, mediocre; 0.50 or above, miserable; and below 0.50 unacceptable.”

As the number of cases (825) exceeds the maximum 5 cases per variable described above, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1970) (Kaiser, 1974) for this sample was calculated to be 0.899 (see Appendix J: Project #1 Results)

#### **5.2.4 Linearity and Outliers**

Pallant (op. cit. p. 185) states that “unless there is clear evidence of a curvilinear relationship, you are probably safe to proceed, providing you have an adequate sample size and ratio of cases to variables.” Having used a five item Likert-type scale, outliers were not perceived to be a problem.

#### **5.2.5 Randomisation of Sample to EFA and CFA**

Within SPSS, the 825 cases were randomly assigned to two roughly equal (407 vs. 418) groups, one of which would be the construction group to undergo exploratory factor analysis (EFA) using SPSS and the other the validation group for confirmatory factor analysis (CFA) using MPlus, as CFA is not offered by SPSS.

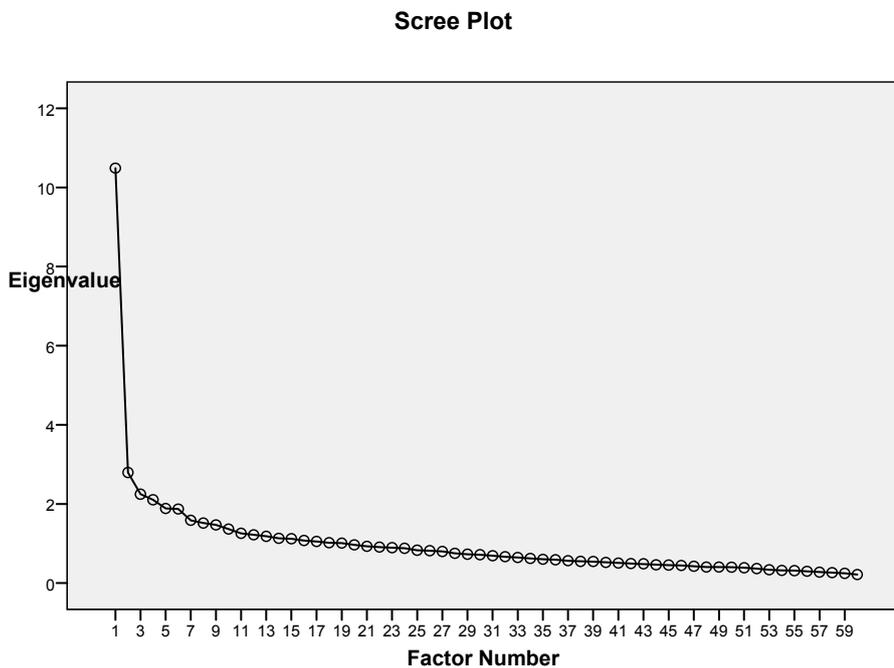
#### **5.2.6 Exploratory Factor Analysis**

Of the data reduction methods available within SPSS, the method chosen was Principal Axis Factoring (PAF). Conway & Huffcutt (2003) explain that while Principal Component Analysis (PCA) seeks to explain the whole correlation matrix, PAF does not use the diagonal and so is a better choice for a set of questionnaire items.

Pallant (op. cit.) details Kaiser’s criterion, scree test and parallel analysis assisting in the decision as to how many factors to retain were run, and these are described below.

Using Kaiser’s criterion (also known as the eigenvalue rule), only factors with an eigenvalue of 1.0 or greater were retained, the eigenvalue of a factor representing the amount of the total variance explained by that factor (Pallant, op. cit.).

Catell's scree test (Cattell, 1966) resulted in the plot shown below:



**Figure 7: Catell scree test on Project #1 data**

As described in Pallant (op. cit.), Catell recommends retaining all factors above the elbow, or break in the plot, as these factors contribute the most to the explanation of the variance in the dataset.

Rotation method chosen was Direct Oblimin, which allows for factors to be correlated as it was unlikely in this research that factors would be orthogonal (Conway & Huffcutt, op. cit).

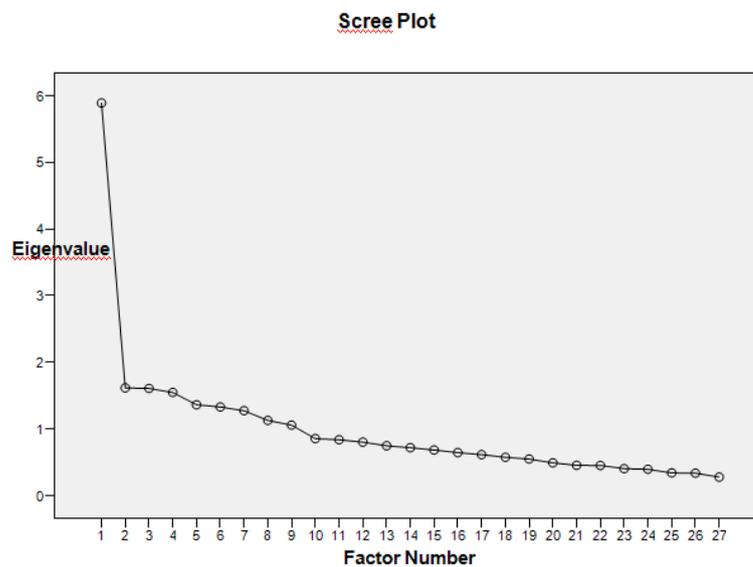
The program was set to suppress weak factors loading  $< 0.3$ , and to run 100 iterations to ensure that data converged.

A Monte Carlo parallel analysis was run using the program Monte Carlo PCA for Parallel Analysis (Watkins, 2000), inserting number of variables, number of cases and 100 replications to generate 100 sets of random data of the same size as the input data file (60 variables x 407 cases). The top 10 eigenvalues from this output (Appendix J: Project #1 Results) were compared with those with the Total Variance

Explained table from the EFA dataset: if the dataset value is larger than the value from parallel analysis, it should be retained, if less, it should be rejected.

Forcing the suggested 8 factor solution did not immediately produce acceptable loadings of  $>0.5$  as ideal and  $>0.4$  as useable, so I opted for an iterative approach to data reduction. Working downwards from a 20 factor solution, I could easily remove those questions which were clearly not working, while retaining others whose early removal might otherwise have skewed the eventual result.

Reproduced below is the screeplot which shows an elbow suggesting that a nine factor solution should be forced.



**Figure 8: Scree plot on Project #1 data showing 9 factor solution**

Running this solution resulted in the 9 factor, 27 item model shown below:

**Table 4: Nine factors derived from Project #1 data**

<b>Factor 1</b>	DIL02	DIL05	DIL10	
<b>Factor 2</b>	PER02	DIL06		
<b>Factor 3</b>	PER01	PER03	PER05	PER07
<b>Factor 4</b>	OPT01	OPT02	OPT03	OPT10
<b>Factor 5</b>	DIL08	RSK07	RSK10	
<b>Factor 6</b>	FLX06	PER09	PER10	
<b>Factor 7</b>	CUR02	CUR03		
<b>Factor 8</b>	FLX10	RSK03	RSK04	CUR01
<b>Factor 9</b>	FLX07	CUR09		

An alternative presentation links these nine factors to the questions loading on them:

**Table 5: Project #1 EFA Results by Factor**

Variable ID	Question	Scoring
<b>Factor 1</b>		
DIL02	I'm not in touch with many people from my past	<b>negative</b>
DIL05	I'm not good at staying in touch with people	<b>negative</b>
DIL10	I don't make time to keep in touch with people	<b>negative</b>
<b>Factor 2</b>		
PER02	If someone doesn't return my call, I make a diary note to call again	<b>positive</b>
DIL06	If someone suggests I call them back in three months, I make a diary note to do so to ensure it happens	<b>positive</b>
<b>Factor 3</b>		
PER01	If someone doesn't return my call, they're not interested in talking to me	<b>negative</b>
PER03	If someone doesn't respond to my email request for information, they're not prepared to offer it	<b>negative</b>
PER05	If someone cancels a meeting at the last minute, I assume they didn't really want to meet	<b>negative</b>
PER07	If a contact doesn't respond to a voicemail, I don't bother calling them again	<b>negative</b>
<b>Factor 4</b>		
OPT01	In your business career, you make your own luck	<b>positive</b>
OPT02	Other people have more influence over my career than I do	<b>negative</b>

OPT03	I don't expect to fulfil my major life ambitions	negative
OPT10	People don't feel it useful to be connected to me	negative
<b>Factor 5</b>		
DIL08	I don't stay in touch with people I like unless there's some immediate or obvious benefit	negative
RSK07	I think 'what's in it for me' before offering to help someone	negative
RSK10	I am willing to help someone even if I don't see something immediate in it for me	positive
<b>Factor 6</b>		
FLX06	When faced with a challenge, I think 'who do I know who could help me with this?'	positive
PER09	If one contact can't help me with a problem, I try to think of who else I could ask for help	positive
PER10	If someone can't help me, I ask them if they know somebody else who might be able to	positive
<b>Factor 7</b>		
CUR02	I remember what people tell me about themselves	positive
CUR03	I don't remember much about the small talk I have at meetings or events	negative
<b>Factor 8</b>		
FLX10	I don't find it easy to make myself at home with a new group of people	negative
RSK03	I'm only comfortable with people I know well	negative
RSK04	At a party, I actively seek out people I don't know to chat to	positive
CUR01	I engage strangers in conversation	positive
<b>Factor 9</b>		
FLX07	I don't like having meetings with business contacts unless there's a specific agenda	negative
CUR09	I don't like conversations that don't have a clear purpose and / or direction	negative

### 5.2.7 Comparison of EFA Result with Proposed Mitchell, Krumboltz and Levin Typology

Discussion of the quality of questions and how loadings might be improved are left until later in this paper, but an immediate concern was to discover whether:

- a) the factors proposed by EFA could be related to those in the originally proposed typology, and what commonality might exist between items loading on these proposed factors;
- b) the theoretical nine factor solution proposed by EFA had resulted in a questionnaire which could be operationalised without further amendment.

To answer the first question, it was evident that factors relating to diligence, persistence and optimism had survived intact. Curiosity had also done so, but only as a two item scale, but other EFA-derived factors were not so clear-cut. Assuming that the questions retained were all relevant to the networking process, the fact that some items loaded together in a manner not defined by the original typology suggested that those common themes might represent an amended typology capable of being tested with confirmatory factor analysis.

Discussion with colleagues about how to describe these themes elicited the following model:

**Table 6: Amended Project #1 factor names**

<b>Housekeeping Contacts</b>	DIL02	DIL05	DIL10	
<b>Diary Management</b>	PER02	DIL06		
<b>Persistence</b>	PER01	PER03	PER05	PER07
<b>Self Belief</b>	OPT01	OPT02	OPT03	OPT10
<b>Altruism</b>	DIL08	RSK07	RSK10	
<b>Openness to Help</b>	FLX06	PER09	PER10	
<b>Recall Memory</b>	CUR02	CUR03		
<b>Engagement</b>	FLX10	RSK03	RSK04	CUR01
<b>Clarity of Purpose</b>	FLX07	CUR09		

To address the second question, it was necessary to check the internal consistency of the 9 factor, 27 item questionnaire resulting from EFA using Cronbach's alpha, results of which are tabulated below:

**Table 7: Cronbach's alpha for 9 factor, 27 item questionnaire**

	Cronbach Alpha	Scale Items
<b>Housekeeping Contacts</b>	0.717	3
<b>Diary Management</b>	0.538	2
<b>Persistence</b>	0.693	4
<b>Self Belief</b>	0.653	4
<b>Altruism</b>	0.567	3
<b>Openness to Help</b>	0.637	3
<b>Recall Memory</b>	0.602	2
<b>Engagement</b>	0.807	4
<b>Clarity of Purpose</b>	0.613	2

As stated in Pallant (op. cit.:95) quoting DeVellis (2003), the Cronbach alpha coefficient of a scale should be above 0.7, with the proviso that:

“ with short scales (e.g., scales with fewer than ten items), it is common to find quite low Cronbach values (e.g. 0.5). In this case, it may be more appropriate to report the mean inter-item correlation for the items. Briggs and Cheek (1986) recommend an optimal range for the inter-item correlation of 0.2 to 0.4.”

**Table 8: Mean inter-item correlation for 9 factor, 27 item questionnaire**

	Mean	Min.	Max.	Range	Scale Items
<b>Housekeeping Contacts</b>	0.461	0.418	0.534	<b>0.116</b>	3
<b>Diary Management</b>	0.374	0.374	0.374	<b>0.000</b>	2
<b>Persistence</b>	0.361	0.261	0.477	<b>0.216</b>	4
<b>Self Belief</b>	0.317	0.195	0.408	<b>0.213</b>	4
<b>Altruism</b>	0.307	0.268	0.354	<b>0.085</b>	3
<b>Openness to Help</b>	0.376	0.358	0.397	<b>0.039</b>	3
<b>Recall Memory</b>	0.433	0.433	0.433	<b>0.000</b>	2
<b>Engagement</b>	0.512	0.465	0.605	<b>0.139</b>	4
<b>Clarity of Purpose</b>	0.443	0.443	0.443	<b>0.000</b>	2

Having established that the questionnaire was satisfactory (if not ideal) on these criteria, the next step was to investigate whether the structure of the revised typology could be supported by confirmatory factor analysis on the other half of the 825 case dataset.

### **5.2.8 Confirmatory Factor Analysis**

Data comprising 418 cases with 27 dependent variables and 9 latent variables matching the EFA generated structure were loaded into MPlus ver. 5.2. using the maximum likelihood (ML) estimation method which Brown (2006:73) cited in Harrington (op. cit.:28) describes as “aiming to find the parameter values that make the observed data most likely or conversely maximize the likelihood of the parameters given the data.”

Harrington (op. cit.:28) refers to ML as “the most commonly used estimation method”, offering three key assumptions for ML estimation: large sample sizes, continuous levels of measurement and normal distribution. The project sample meets all three criteria.

Results of the CFA demonstrate that input reading terminated normally as did model estimation. Brown's (op. cit.) identification of three categories of fit indices, reported in Harrington (op. cit.:51) and used "because they are based on both popularity of use in the research literature and performance..." are discussed below.

### **5.2.9 Absolute Fit Indices**

Harrington (op. cit.:51) describes the chi-square test of model fit as "the most common absolute fit index...which tests whether the model fits exactly in the population. There are multiple limitations to the model chi-square (e.g., it is dependent on sample size and will almost always be significant with large samples)."

**For the project CFA sample, chi-square was significant at 513.260, with 288 degrees of freedom and a P-value of 0.0000.**

Standardised Root Mean Square Residual (SRMR) is defined by Harrington (op. cit.:51) to be "based on the discrepancy between the correlations in the input matrix and the correlations predicted by the model". Brown (op. cit) as quoted in Harrington (op. cit.:52), recommends SRMR to be close to 0.08 or less, while Kline (op. cit.) is quoted as reporting that "SRMR values less than 0.10 are generally considered favourable."

**SRMR for the project CFA sample was 0.047, meeting both the Brown and Kline criteria.**

### **5.2.10 Parsimony Correction Indices**

As described by Harrington (op. cit.:51):

"...parsimony correction indices incorporate a penalty for poor parsimony, therefore more complex models will be viewed as having a poor fit. The root mean square error of approximation (RMSEA) tests the extent to which the model fits *reasonably* well in the population; it is sensitive to model complexity, but unlike chi-square, it is relatively insensitive to sample size."

Harrington goes on to state that “Brown (2006) recommends RMSEA close to 0.06 or less“ and that “According to Kline (2005),  $RMSEA \leq 0.05$  indicates close approximate fit, values between 0.05 and 0.08 suggest reasonable error of approximation and  $RMSEA \geq 0.10$  suggests poor fit.”

**The project CFA sample returns an RMSEA = 0.043, with 90% confidence intervals of 0.037 and 0.049 and 0.968 probability that  $RMSEA \leq 0.05$ . This meets both researchers’ criteria.**

### **5.2.11 Comparative Fit Indices**

Harrington (op. cit.:52) describes comparative fit indices as “used to evaluate the fit of a model relative to a more restricted ...baseline model.” He quotes Kline (op. cit. p. 140) that “[CFI] greater than roughly 0.90 may indicate reasonably good fit of the researcher’s model,” but Brown (2006) is more conservative, recommending CFI “close to 0.95 or greater” but with the comment that “this use of the words ‘close to’ is purposeful.”

Hu & Bentler (Hu, 1998) accept a CFI  $>0.90$  as indicating a good fit.

**CFI of the CFA research sample was 0.915, indicating a reasonably good fit of the model to existing data.**

### **5.3 Model Fit Summary**

Using Brown’s recommendations for assessing acceptable model fit, the nine factor model solution elicited using EFA and tested with CFA appears to perform at least reasonably well and can be regarded as an ‘acceptable fit’.

Concern about the inclusion of three short scales of two items each led to re-running CFA with these scales removed, but doing so resulted in only a marginal increase of CFI from 0.915 to 0.917, so I elected to retain them.

This decision was informed by consideration of communalities (which represent the proportion of variance in that variable explained by the model, and are on a continuum of 0 to 1) of the CFA variables. Whereas

in EFA, the benchmark for retaining an item may be between 0.35 and 0.5 depending on author, the nature of CFA is such that items load only upon one factor, resulting in lower communalities. 0.2 or less is deemed less than ideal. Most items loaded well above this minimum, but CUR02, OPT01 and RSK10 all loaded marginally lower than 0.2 ( see Appendix J: Project #1 Results), suggesting that these items might not be reliable.

## **CHAPTER SIX – PROJECT #1 DISCUSSION**

### **6.1 Validity of the Proposed Mitchell, Levin & Krumboltz Typology**

Results presented in the previous chapter suggest that this project has resulted in a workable typology which bears some relation to that I posited at the outset along four of the original six axes: optimism, persistence, diligence and curiosity. It is reassuring that my decision to add 'diligence' to the original Mitchell, Levin & Krumboltz typology appears to have been vindicated, but questions remain as to why a nine factor solution has resulted.

This raises a question about the proposed Mitchell, Levin and Krumboltz typology: is the typology itself flawed or incomplete (as it appears from the literature that it has not been tested elsewhere), or was I asking questions that were too poorly designed to discriminate along the lines of that typology?

Clearly, questionnaire respondents can only answer the questions put in front of them, so focus must be on the nature of the questions themselves.

### **6.2 Improving Construct Validity**

Improvement to questions can be addressed by considering the three types of construct validity as discussed by Koeske (1994). and referenced in Harrington (op. cit.:6). Looking first at theoretical validity, all 60 original questions appeared at the outset to have satisfactory face validity in terms of their frame of reference and conceptualisation, but it became clear from the poor loadings of questions which failed to reach the 0.3 threshold in EFA that there were issues with convergent validity: these questions were clearly failing to correlate with others with which the theoretical typology had predicted that they should.

On analysis, issues also became apparent in relation to discriminant validity (that is, ensuring that items do not correlate with other items they should not relate to). These validity issues are now considered in relation to specificity, ambiguity, semantics and relevance of the original questions.

### 6.2.1 Question Specificity

A small number of respondents contacted me after completing the questionnaire with the comment that they could not answer some questions accurately because (to paraphrase) “it depends on context”. Which questions this relates to I did not (unfortunately) ask or record.

In designing the questionnaire, I recognised that respondents would come from a variety of backgrounds and working environments, so I had expressly tried to remove context for fear of making the questionnaire too rigid. I anticipated that respondents would apply their own context to the question based on personal preference and experiences.

An example is item CUR08 (“I like chatting”). I had anticipated that people would probably fall into two broad camps irrespective of context, but even the chattiest person is likely to revert to silence when faced with a tight project deadline. So better wording for the item might have been “I am happy to chat to a stranger on a long train or plane journey,” to help capture an individual’s propensity to engage a stranger in conversation (and so put themselves in a position to give and receive new information).

That same item, CUR08, also fails on the test of providing discriminant validity. While coded as an item related to the ‘Curiosity’ construct, the propensity to chat to a stranger could equally well indicate a propensity for ‘Risk Taking’. Similarly CUR01 (“I engage strangers in conversation”) and RSK04 (“At a party, I actively seek out people I don’t know to chat to”) can with hindsight be seen as likely to be part of the same construct. This raises an issue as to whether, in the networking context, Mitchell, Levin and Krumboltz were right to assign ‘Risk Taking’ and ‘Curiosity’ to be separate constructs. Certainly, in the personality literature, these two factors are measured by separate scales, but the ‘risk taking’ envisaged by the typology may simply be a way of indulging curiosity about new people or situations. Wiseman (2007), reports Fisher & Fisher (1981) as finding that “Several [comedy] performers admitted that they were intensely curious about people and behaviour”. Performing comedy is a notoriously risky business, and here are curiosity and risk-taking linked ‘hand in glove’. So it is possible that ‘risk taking’ as a personality trait simply does not map well to that same expression used to describe a networking mindset or action: put simply, propensity to fly a hang glider is not the same sort of ‘risk taking’ activity as chatting to a stranger on a train.

## 6.2.2 Question Relevance

Anecdotal feedback reports that some of the items made respondents think about their own networking activity in a new light, indicating a high degree of relevance. No critique of relevance was received regarding any of the 60 core items, but the 'honesty' questions (regarding use of company stationery and phone) remaining as artefact from the pilot questionnaire were critiqued by some respondents as irrelevant to their working lives as consultants or self-employed.

## 6.2.3 Question Semantics and Method Effects

Of the 60 original items, half were negatively scored. Of the 27 remaining in the revised typology after factor analysis, 19 (70%) are negatively scored, as tabulated below. Questions are grouped first by the originally proposed typology, and then as suggested by the nine factor EFA:

**Table 9: Question scoring by original typology**

Variable	Neg. Scoring	Pos Scoring
DIL02	-ve	
DIL05	-ve	
DIL06		+ve
DIL08	-ve	
DIL10	-ve	
PER01	-ve	
PER02	-ve	
PER03	-ve	
PER05	-ve	
PER07	-ve	
PER09		+ve
PER10		+ve
CUR01		+ve
CUR02		+ve
CUR03	-ve	
CUR09	-ve	
OPT01	-ve	
OPT02	-ve	
OPT03	-ve	
OPT10	-ve	
RSK03	-ve	
RSK04		+ve
RSK07	-ve	
RSK10		+ve

FLX06		+ve
FLX07	-ve	
FLX10	-ve	
<b>TOTAL</b>	<b>19</b>	<b>8</b>

**Table 10: Question scoring by nine factor EFA output**

Factor	Variable	Neg. Scoring	Pos Scoring
<b>Housekeeping Contacts</b>	DIL02	-ve	
	DIL05	-ve	
	DIL10	-ve	
<b>Diary Management</b>	PER02	-ve	
	DIL06		+ve
<b>Persistence</b>	PER01	-ve	
	PER03	-ve	
	PER05	-ve	
	PER07	-ve	
<b>Self Belief</b>	OPT01	-ve	
	OPT02	-ve	
	OPT03	-ve	
	OPT10	-ve	
<b>Altruism</b>	DIL08	-ve	
	RSK07	-ve	
	RSK10		+ve
<b>Openness to Help</b>	FLX06		+ve
	PER09		+ve
	PER10		+ve
<b>Recall Memory</b>	CUR02		+ve
	CUR03	-ve	
<b>Engagement</b>	FLX10	-ve	
	RSK03	-ve	
	RSK04		+ve
	CUR01		+ve
<b>Clarity of Purpose</b>	FLX07	-ve	
	CUR09	-ve	
	<b>TOTAL</b>	<b>19</b>	<b>8</b>

Tabulated like this, the preponderance of negatively scored items in the resulting scales is evident.

Podsakoff (2003 :884) referenced by Harrington (op. cit.:7) reviews method effects including the effect of wording such as positively vs. negatively worded items and offers the suggestion that:

“The basic logic here is that reverse-coded items are like cognitive ‘speed bumps’ that require respondents to engage in more controlled, as opposed to automatic, cognitive processing... In addition...factors representing negatively worded items may occur in cases where as few as 10% of the respondents fail to recognize that some items are reverse coded.”

I am aware that my effort to create a questionnaire with equal but randomly assigned positive and negative scoring led to some clumsy semantics and double negatives that may have contributed to low factor loadings through mis-reading or mis-interpretation of the question. Given that effective networking is largely about taking positive actions and having a positive mindset, it may be preferable to dispense with reverse scoring of items completely and accept the risk of introducing other method biases.

I do not consider that any benefit would have been gained by presenting questions in a different order, grouping questions by factor or randomising presentation for each respondent.

### **6.3 Improving Questionnaire Design**

EFA and CFA support a revised typology, and while a 27 item scale is approximately the right length to be used operationally, the existence of three scales containing only two items each is a potential weakness whose resolution would make the amended typology more defensible.

Accordingly, on the basis that questions removed from the questionnaire are indeed relevant to networking efficacy, effort now went into refining them with a view to improving their likely convergent and discriminant validity, and increasing the number of items on the shorter scales ‘diary keeping’, ‘memory’ and ‘clarity of purpose’ within the revised typography.

### **6.4 Re-sampling Methodology**

Creating a new sample of similar size to the 825 cases used in this project would have been problematic, but I decided that it should be possible to harness existing respondents’ goodwill to ask a number of revised questions and ‘slipstream’ those responses into the previous dataset. This could be challenged as potentially introducing a ‘method effect’ error but I could see no reason to expect responses to be different when asked as a second tranche of (say) 10-20 questions than had those questions been part of

the original questionnaire. The alternative was to create a new dataset. This was not realistic within the timescale of the DBA, but could be used as the basis for a future publication.

In practical terms, a revised questionnaire would be used with all future respondents identified as being 'effective' or 'poor' networkers as these groups are expanded as part of Project #2, but it is unlikely that this will yield a large enough dataset to allow factor analysis and further revision of the model.

## CHAPTER SEVEN – PROJECT #1: RESULTS OF TRIAL OPERATIONALISATION

### 7.1 Results of a Trial Operationalisation

Having established through EFA and CFA that the revised typology had acceptable fit, I was interested to get an early indication as to whether the output of Project #1 would be useful as the input to Project #2.

As a reminder, Project #2 was designed to discover whether there are quantifiable differences between the mindset and actions of effective networkers compared with others. At time of analysis, the dataset comprised 57 'highly effective' networkers and 4 'poor' networkers (recruitment to this group had only just commenced.).

Comparison between the groups (and an assessment of the discriminant validity of the questionnaire) was made using an independent samples t-test to compare the mean score of these two groups on the nine EFA-derived factors.

Results are shown at Appendix J: Project #1 Results. All scales achieved a significance level  $> 0.05$  on Levene's test, meaning that equal variance could be assumed.

The 2-tailed significance is less than or equal to 0.05 for scales HKCONTA, SELFCNF, MEMORY, ENGAGE and CLRPURP, showing a significant difference in the mean score between the 'effective' and 'poor' networker groups, but no significant difference in DIARY, LACKPER, ALTRU and OPENHELP.

Whilst this suggested that the revised typology might be capable of discriminating between 'effective' and 'poor' networkers on at least some of the nine axes, the value of this investigation was hampered by the very small 'poor networker' sample ( $n=4$ ) size.

I considered that a more useful test would be to compare the 'effective networker' sample ( $n=57$ ) with the wider general population as represented by the 'LinkedIn' respondents plus 'poor' networkers ( $n=768$ ). Accordingly, I conducted a second t-test, the results of which are seen in Appendix J: Project #1 Results.

In this case, all nine scales show a significant difference at the  $p < 0.05$  level between the 'effective' networker group and all other cases (about whose networking efficacy I had no information other than that their very responsiveness suggested that they would perform better than their non-responding peers).

Even here, the revised typography appeared to be capable of discriminating between effective networkers and the rest, giving me confidence that the questionnaire, and the typology on which it is now based, provided a firm foundation for Project #2.

I plan to continue working on refinement of the questionnaire outside the parameters of the DBA project structure with a view to publication and development of the questionnaire as a diagnostic tool.

## **CHAPTER EIGHT – PROJECT #2 INTRODUCTION & CONTEXT**

### **8.1 Project Scope & Components**

To recap briefly, the goal of this research is to create and test a networking inventory capable of discriminating between effective and ineffective networkers, and of testing pre- and post- training effectiveness in an individual.

The intended goal of Project #1 was to create a working inventory, with Project #2 intended to test that inventory. It would have been possible to stick with that original plan but I opted not to for reasons given below.

### **8.2 Stick or Twist?**

The outcome of Project #1 was an inventory which was reported as follows at section 5.3:

“Using Brown’s recommendations for assessing acceptable model fit, the nine factor model solution elicited using EFA and tested with CFA appears to perform at least reasonably well and can be regarded as an ‘acceptable fit’.”

Concern about the inclusion of three short scales of two items each led to re-running CFA with these scales removed, but doing so resulted in only a marginal increase of CFI from 0.915 to 0.917, so I elected to retain them.

Discussion of the results followed in chapters 6 and 7, leaving me with a dilemma and two options:

- a) to accept the inventory arising from Project #1 and move directly to testing its discriminatory ability with a real population; or
- b) to attempt to improve the inventory before moving forward.

The only benefit of the first option would have been faster completion of the project, but perhaps ultimately at the expense of the end result on the basis of 'garbage in, garbage out'. By now, I was acutely aware of the problems involved in recruiting suitable subjects. I knew that if I had to revise the inventory at a later date, the goodwill of existing subjects would have been exhausted and their responses compromised by overexposure. Recruiting a new cohort was possible in theory, but in practice I was running out of places to find the several hundred subjects needed.

The drawback of the second option was that it would set my research timetable back by several months. This option too would require the recruitment of a new cohort, but with a key difference: assuming the resulting revised inventory to be an improvement on the first iteration, their data could be used directly as input into large scale testing of the inventory's discriminative ability.

The second option would involve significantly more work, but the prospect of a more meaningful and useful outcome made it the only sensible route.

### **8.3 Project #2 Components**

Accordingly, Project #2 now comprises two distinct elements:

- 1) Revision of the inventory
- 2) Testing the ability of the inventory to discriminate between effective and ineffective networkers.

These two elements are reported in sequence.

### **8.4 Project #2 Propositions**

The propositions for Project #2 are:

**...that revisions to the networking inventory developed in Project #1 will result in a typology and an inventory suitable for operational use.**

**...that the revised inventory will be able to discriminate between effective and ineffective networkers.**

## **CHAPTER NINE– NETWORKING INVENTORY REDESIGN**

### **9.1 Rationale for Redesign**

Output from Project #1 was a nine factor, 27 question inventory which suffered defects discussed in sections 6.2 and 6.3. These defects and proposals to remedy them in the next iteration are outlined below.

#### **9.1.1 Cronbach Alpha**

By the nature of the Cronbach alpha calculation, a higher alpha is easier to achieve with a longer scale, so while a poor alpha may be defensible on shorter scales (see section 5.2.6), my goal for the second iteration was to improve alphas above 0.7 for the seven scales that fell below it (contact management, persistence, self belief, altruism, openness to help, recall and clarity of purpose).

#### **9.1.2 Scale Length & New Questions**

Three of the scales (diary management, recall and clarity of purpose) emerging from Project #1 comprise only two items, with correspondingly low alphas. My goal for the second iteration was to clarify, refine and re-present questions which seemed to remain relevant to networking but which had been removed from the questionnaire during the EFA. In addition, I devised new questions intended to bolster the shorter scales.

### **9.2 Recoding Questions & Renaming Factors**

The 9 factor, 27 question output of Project #1 yielded the table seen in section 5.2.6 as Table 4. A requirement of the new iteration was to recode questions according to the new factor structure. In addition, factor names were changed to better reflect their character.

These changes resulted in the input to the second iteration of the questionnaire looking as follows, with new item codes shown in bold below their original coding.

**Table 11: Second iteration of inventory**

<b>Maintaining Contact (MAI)</b>	DIL02	DIL05	DIL10	
	<b>MAI1</b>	<b>MAI2</b>	<b>MAI3</b>	
<b>Contact Management (CMA)</b>	PER02	DIL06		
	<b>CMA1</b>	<b>CMA2</b>		
<b>Persistence (PER)</b>	PER01	PER03	PER05	PER07
	<b>PER1</b>	<b>PER2</b>	<b>PER3</b>	<b>PER4</b>
<b>Locus of Control (LOC)</b>	OPT01	OPT02	OPT03	OPT10
	<b>LOC1</b>	<b>LOC2</b>	<b>LOC3</b>	<b>LOC4</b>
<b>Altruism (ALT)</b>	DIL08	RSK07	RSK10	
	<b>ALT1</b>	<b>ALT2</b>	<b>ALT3</b>	
<b>Openness to Help (HLP)</b>	FLX06	PER09	PER10	
	<b>HLP1</b>	<b>HLP2</b>	<b>HLP3</b>	
<b>Recall Ability (RCL)</b>	CUR02	CUR03		
	<b>RCL1</b>	<b>RCL2</b>		
<b>Ease of Engagement (ENG)</b>	FLX10	RSK03	RSK04	CUR01
	<b>ENG1</b>	<b>ENG2</b>	<b>ENG3</b>	<b>ENG4</b>
<b>Clarity of Purpose (PUR)</b>	FLX07	CUR09		
	<b>PUR1</b>	<b>PUR2</b>		

With several factors already having three or more items, the creation of new questions centred on strengthening the three 2 item scales. The revised questionnaire, with new questions indicated, is at Appendix N: Second Iteration Inventory, with New Questions Indicated.

### **9.3 Revised Questionnaire Sample Size and Selection**

The mechanism described in section 4.4.2 had yielded excellent results in creating a large dataset for Project #1, so it seemed reasonable to use the same mechanism again.

#### **9.3.1 ‘LinkedIn’ Dataset for Questionnaire**

In broadcasting a request to ‘LinkedIn’ members, I had to consider whether I should accept input from those who had previously responded to the earlier survey. Given that over nine months had elapsed

between the original and subsequent surveys (Feb 2010 and Nov 2010 respectively), and that respondents would not have access to (or remember) their earlier responses, I could see no reason to exclude them.

## **CHAPTER TEN – RESULTS & ANALYSIS OF REDESIGNED INVENTORY**

### **10.1 Treatment of Raw Data**

677 valid responses were received. 290 (43%) respondents had completed the earlier questionnaire while 387 (57%) reported that this was their first exposure to the research. 439 (64.8%) were male and 232 (34.3%) were female. The remaining six were anonymous responses, which, in contrast to handling in the earlier questionnaire, were included on the basis that if they had bothered to work their way through the entire questionnaire, it would be worthwhile including them once a basic security check had been performed to ensure that responses were coming from different IP addresses (i.e. unlikely to be one person).

There were no missing data in the sample, which was imported into SPSS and corrected for negative scoring. Given the adequate sample size, the intention was to run a new EFA/CFA cycle rather than make assumptions about the most appropriate model based on earlier results.

### **10.2 Factor Analysis**

The appropriateness of using Factor Analysis was determined using the criteria described below. The rationale and explanation of each of these tests is reported in the corresponding paragraphs of chapter three, so only the results are reported here.

#### **10.2.1 Sample Size**

With 49 questions, the 677 observations meet Hair's (op. cit. pp. 98-99) 'rule of thumb' of 10 observations per variable (see section 4.3.2), although when split in two for exploratory and confirmatory factor analysis, the sample would be higher than Hair's minimum but below his proposed ideal (i.e. above 5 observations per variable but below 10).

The sample is 'large' as defined by Kline (op. cit.), quoted in Harrington (op cit p.46) in relation to Confirmatory Factor Analysis, and is above the 'comfort' level of 300 suggested by Tabachnik and Fidell

(op. cit.) quoted in Pallant (op. cit.:181). It is also larger than the 10 to 1 ratio of cases to factors recommended as a minimum by Nunnally (op. cit.) quoted in Pallant (op.cit.:181).

### **10.2.2 Bartlett's Test of Sphericity**

The value of Bartlett's test of sphericity for the 677 case sample was significant (i.e. <0.05) at 0.000. The comments on sensitivity made in section 5.2.3 suggest Kaiser's measure of sampling adequacy when there are more than five cases per variable.

### **10.2.3 Kaiser's Measure of Sampling Adequacy**

The Kaiser-Meyer-Olkin measure of sampling adequacy for this sample was 0.847 (see Appendix K: Project #2 Results). Hair (op. cit.) as reported in section 5.2.3 suggests interpreting values of 0.80 or above as 'meritorious'.

### **10.2.4 Linearity and Outliers**

Using a five item Likert-type scale, and with adequate sample size and ration of cases to variables, Pallant (op.cit. p.185).suggests that it is safe to proceed with factor analysis.

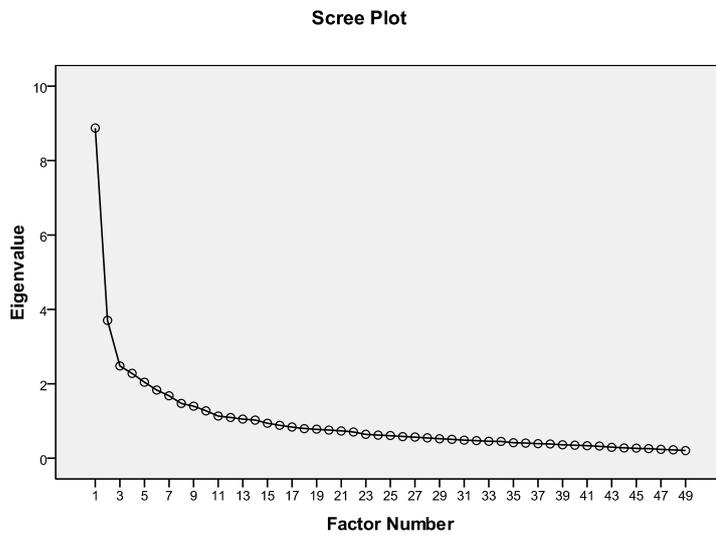
### **10.2.5 Randomisation of Sample to EFA and CFA**

Within SPSS, the 677 cases were randomly assigned to two roughly equal groups (330 vs. 337), one of which would undergo EFA as the construction group and the other imported into MPlus as the validation group.

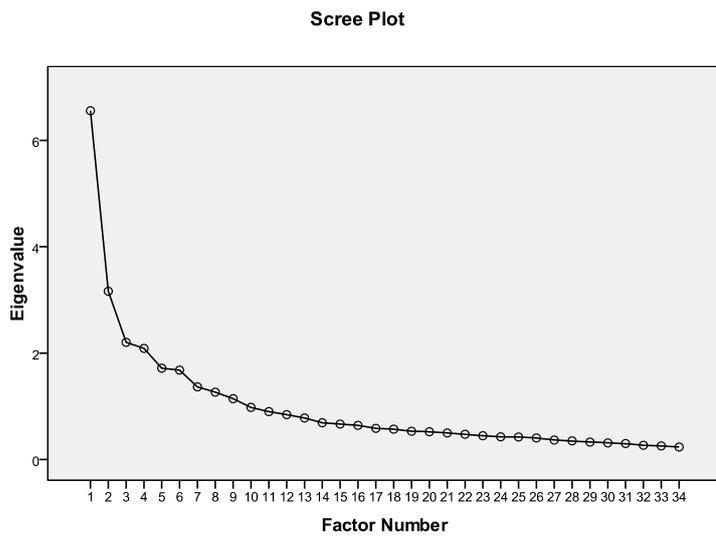
### **10.2.6 Exploratory Factor Analysis**

EFA was carried out on the construction half of the sample using Principal Axis Factoring and Oblimin rotation with Kaiser normalization, following the same process described in section 5.2.6. This resulted initially in the scree plot below:

**Table 12: initial scree plot for Project #2 EFA**



What emerged from EFA was the following scree plot:



**Figure 9: Final scree plot for Project #2 EFA**

This gave rise to the nine factor, 34 item solution shown below:

**Table 13: Project #2 nine factor, 34 item solution**

<b>Maintaining Contact (MAI)</b>	MAI1	MAI2	MAI3	MAI4	MAI6	
<b>Contact Management (CMA)</b>	CMA2	CMA3	CMA4			
<b>Ease of Engagement (ENG)</b>	ENG1	ENG2	ENG3	ENG4		
<b>Openness to Help (HLP)</b>	HLP4	HLP5	HLP7			
<b>Locus of Control (LOC)</b>	LOC1	LOC2	LOC3			
<b>Persistence (PER)</b>	PER1	PER2	PER3			
<b>Clarity of Purpose (PUR)</b>	PUR1	PUR2	PUR3			
<b>Recall Ability (RCL)</b>	RCL1	RCL2	RCL3	RCL4	RCL5	RCL7
<b>Altruism (ALT)</b>	ALT2	ALT3	ALT4	ALT8		

### 10.2.7 Internal Consistency of Resulting Scales

The nine factor, 34 question solution appeared at this stage to have merit, but before proceeding to CFA, I calculated the reliability of each new scale using Cronbach's alpha, with the following results:

**Table 14: Cronbach's alpha for Project #2 nine factor, 34 item solution**

	Cronbach Alpha	Scale Items
<b>Maintaining Contact (MAI)</b>	0.824	5
<b>Contact Management (CMA)</b>	0.577	3
<b>Persistence (PER)</b>	0.739	3
<b>Locus of Control (LOC)</b>	0.630	3
<b>Altruism (ALT)</b>	0.513	4
<b>Openness to Help (HLP)</b>	0.807	3
<b>RCL</b>	0.874	6

<b>Ease of Engagement (ENG)</b>	0.764	4
<b>Clarity of Purpose (PUR)</b>	0.529	3

The CMA, LOC, ALT and PUR scales are below the reliability minimum of 0.7 (and ideally > 0.8) usually required to demonstrate internal consistency, but as discussed in chapter 5.2.6, this is not unusual for shorter scales, so mean inter-item correlations are reported in Appendix K: Project #2 Results.

The mean inter-item correlations for the CMA, LOC, ALT and PUR scales all fall within the 'optimal' range of 0.2 - 0.4 described by Briggs and Cheek (op. cit.) and referred to in section 5.2.6.

Having established that the revised questionnaire meets internal consistency criteria, the next step was to investigate whether the structure of the revised typology could be supported by confirmatory factor analysis on the other half of the 677 case dataset.

### **10.2.8 Confirmatory Factor Analysis**

Data comprising 341 cases with 34 dependent variables and nine latent variables matching the EFA generated structure were loaded into MPlus ver. 5.2 using the ML estimation method for reasons given in section 3.2.8. ML usage assumes large sample sizes, continuous levels of measurement and normal distribution. The project sample meets all three criteria.

The three categories of fit indices used in the previous analysis are reported again below.

### **10.2.9 Absolute Fit Indices**

As discussed in section 5.2.9, Harrington (op. cit. :51) describes the chi-square test of model fit as “the most common absolute fit index...which tests whether the model fits exactly in the population. There are multiple limitations to the model chi-square (e.g., it is dependent on sample size and will almost always be significant with large samples).”

**For the 341 case validation sample, chi-square was significant at 832.244 with 491 degrees of freedom and a P-Value of 0.0000**

Standardised Root Mean Square Residual (SRMR) is defined by Harrington (op. cit.:51) to be “based on the discrepancy between the correlations in the input matrix and the correlations predicted by the model”. Brown (op. cit) as quoted in Harrington (op. cit.:52), recommends SRMR to be close to 0.08 or less, while Kline (op. cit.) is quoted as reporting that “SRMR values less than 0.10 are generally considered favourable.”

**SRMR for the 341 case CFA sample was 0.058, meeting both the Brown and Kline criteria.**

### **10.2.10 Parsimony Correction Indices**

As described by Harrington (op. cit.:51):

“...parsimony correction indices incorporate a penalty for poor parsimony, therefore more complex models will be viewed as having a poor fit. The root mean square error of approximation (RMSEA) tests the extent to which the model fits *reasonably* well in the population; it is sensitive to model complexity, but unlike chi-square, it is relatively insensitive to sample size.”

Harrington goes on to state that “Brown (2006) recommends RMSEA close to 0.06 or less” and that “According to Kline (2005),  $RMSEA \leq 0.05$  indicates close approximate fit, values between 0.05 and 0.08 suggest reasonable error of approximation and  $RMSEA \geq 0.10$  suggests poor fit.”

**The 341 case validation sample returns an RMSEA = 0.045, with 90% confidence intervals of 0.040 and 0.050 and 0.936 probability that  $RMSEA \leq 0.05$ . This meets both researchers' criteria.**

### **10.2.11 Comparative Fit Indices**

Harrington (op. cit. p. 52) describes comparative fit indices as “used to evaluate the fit of a model relative to a more restricted ...baseline model.” He quotes Kline (op. cit. p. 140) that “[CFI] greater than roughly 0.90 may indicate reasonably good fit of the researcher's model,” but Brown (2006) is more conservative, recommending CFI “close to 0.95 or greater” but with the comment that “this use of the words ‘close to’ is purposeful.”

Hu & Bentler (1998) accept a CFI >0.90 as indicating a good fit.

**CFI of the CFA validation half was 0.900, meeting the 0.90 minimum to be described as a good fit of the model to existing data.**

#### **10.2.12 Model Fit Summary**

Using Brown's recommendations for assessing acceptable model fit, the nine factor model solution elicited using EFA and tested with CFA meets all criteria and can be regarded as an 'acceptable fit' suitable for operational use.

## **CHAPTER ELEVEN – IS THE INVENTORY NOW FIT FOR PURPOSE?**

### **11.1 Validity of the Proposed Typology**

This is the third iteration of the inventory and the second to be used at large scale. The nine factor solution has carried through from the previous analysis to this, and the model suggested by EFA has been confirmed by the various 'model fit' indices calculated during CFA. A higher CFI score of 0.95 or greater (actual score was 0.903) would have been preferable to meet Brown's more conservative criterion for model fit, but the model meets the criteria of both Kline and Hu & Bentler for an acceptable fit.

### **11.2 Construct Validity**

Three types of construct validity were considered in section 6.2. The model certainly has face validity, with all questions being seen as relevant by colleagues with whom they were discussed. In terms of convergent validity, EFA on this dataset demonstrated that there were still issues with certain questions not loading as expected, and so not being retained within the final model. In relation to discriminant validity, certain groupings of questions (MAI, PER, LOC) maintained their cohesion through this and the previous analysis.

#### **11.2.1 Question Specificity**

The revised inventory retains the idea that respondents would come from a variety of backgrounds and working environments, meaning that I expressly removed context for fear of making the questionnaire too rigid. I anticipated that respondents would apply their own context to the question based on personal preference and experiences.

Feedback on wording from participants and colleagues helped me improve the wording of questions for this version of the inventory, removing as far as possible the comment "it depends on context" from responses.

### 11.2.2 Question Semantics and Method Effects

In this iteration, my original desire to include approximately equal numbers of positively and negatively scored items gave way to the primary requirement for question clarity, informed in part by the discussion in section 6.2.3 regarding potential adverse effects of negatively worded items. Accordingly, some clumsily worded double negatives were removed, resulting in the scoring schema shown here:

**Table 15: Project #2 question scoring by factor**

Item	Question	Scoring	
MAI1	I'm not in touch with many people from my past		neg
MAI2	I'm not good at staying in touch with people		neg
MAI3	I don't make time to keep in touch with people		neg
MAI4	I stay connected with old colleagues and workmates	pos	
MAI6	I make a point of staying in occasional touch with people I haven't worked with for some time	pos	
CMA2	If someone suggests I call them back in three months, I make a diary note to do so to ensure it happens	pos	
CMA3	If I promise someone a referral or recommendation, I make sure that I deliver without the need to be reminded	pos	
CMA4	I have a tendency to forget to provide promised information until reminded		neg
PER1	If someone doesn't return my call, they're not interested in talking to me		neg
PER2	If someone doesn't respond to my email request for information, they're not prepared to offer it		neg
PER3	If someone cancels a meeting at the last minute, I assume they didn't really want to meet		neg
LOC1	In your business career, you make your own luck	pos	
LOC2	Other people have more influence over my career than I do		neg
LOC3	I don't expect to fulfil my major life ambitions		neg
ALT2	I think 'what's in it for me' before offering to help someone		neg
ALT3	I am willing to help someone even if I don't see something immediate in it for me	pos	
ALT4	It's important to me to be a helpful person	pos	
ALT8	It pleases me to get a request for help from someone in my business network	pos	

HLP4	When faced with a challenge I see asking for help as a sign of weakness		neg
HLP5	Asking someone for help is demeaning to my own reputation		neg
HLP7	Asking for help makes me look like I don't know how to do my job		neg
RCL1	I remember what people tell me about themselves	pos	
RCL2	I don't remember much about the small talk I have at meetings or events		neg
RCL3	I'm good at mentally filing away snippets of conversation for the next time I meet that person	pos	
RCL4	I'm good at noting what people tell me about their hobbies and interests and using that on a subsequent occasion	pos	
RCL5	I can recall what someone told me about themselves weeks or months previously	pos	
RCL7	The things that people tell me about themselves tend to 'go in one ear and out the other'		neg
ENG1	I don't find it easy to make myself at home with a new group of people		neg
ENG2	I'm only comfortable with people I know well		neg
ENG3	At a party, I actively seek out people I don't know to chat to	pos	
ENG4	I engage strangers in conversation	pos	
PUR1	I don't like having meetings with business contacts unless there's a specific agenda	pos	
PUR2	I don't like conversations that don't have a clear purpose and / or direction	pos	
PUR3	Before arranging a meeting I have a clear checklist of what I am to achieve from it	pos	
		<b>17</b>	<b>17</b>

As previously, I could see no benefit in presenting questions in a different order, grouping questions by factor or randomising presentation for each respondent.

### 11.3 Internal Consistency

Scales MAI, PER, HLP, RCL and ENG all exceed the accepted 'minimum' Cronbach alpha of 0.7. This is gratifying in light of how difficult it can be to reach acceptable alphas with scales of less than 10 items.

The remaining CMA, LOC, ALT and PUR scales all meet the Briggs & Cheek (op. cit.) 'optimal range' for inter-item correlation, suggested as an alternative reporting form for short scales.

#### **11.4 Scale Length**

This is now satisfactory, with at least three items per scale.

#### **11.5 Questionnaire Length**

At 34 questions (with additional questions to collect personal data), the inventory is now at a length acceptable for use in the workshop environment or for completion online without introducing method effects arising from time to complete the inventory.

The low alphas for four of the scales remains a source of irritation, despite the known difficulty of attaining acceptable alphas on short scales. Ideally (time and participant goodwill permitting), I would run a further iteration using new and/or questions amended from those lost during factor analysis in an attempt to create an inventory with at least four and preferably five items per scale. This might result in higher alphas, but also a longer (and so less user-friendly) questionnaire.

#### **11.6 Summary**

As reported in section 7.1, a trial operationalisation using the 27 question inventory output from Project #1 showed promise in discriminating between effective networkers and others. Given the maintenance of the nine factor model through a new EFA and CFA plus model fit analysis above, I have confidence that this iteration of the inventory is now fit for purpose.

## **CHAPTER TWELVE – PUTTING THE INVENTORY TO WORK**

### **12.1 Operational Goal for Project #2**

Having accepted the inventory as representing a defensible typology of networking skills, the next step was to test its ability to discriminate between effective and ineffective networkers. This was originally intended to involve the creation of two datasets: a group of demonstrably 'effective networkers' to provide a 'gold standard' of networking skills, and a set of 'ineffective networkers' against which to compare them.

### **12.2 Sample Selection**

From the outset, I realised that a key element for this part of the research would be to create a defensible method of identifying 'effective' and 'ineffective' networkers. For reasons given in section 4.4.1, I considered that self-report would be unacceptable, so the following sections describe the means of recruitment into each group.

#### **12.2.1 Effective Networkers**

As detailed in section 4.4.1, I had for some time been growing a dataset of effective networkers via referral. This had grown from 13 pilot study responses to 61 (which would continue to grow had I not drawn a line under data collection in preparation for this report), but with the complication that respondents had completed differing versions of the inventory according to when they were recruited.

My concern at this point was that if I failed to get their input into the revised questionnaire, it would make it impossible to compare my 'effective networker' group with others. This needed to be balanced against the risk of overtaxing the goodwill of this group by asking them to complete a questionnaire which was substantively the same as that they had been faced once (and for those in the pilot study, twice) before. My solution to this problem was to make the assumption that, being effective networkers, their previous responses were unlikely to have changed markedly for better or worse in the intervening months, and so it would be acceptable to simply pose the 14 'new' questions in the revised inventory and merge the results of these with earlier responses to create a dataset capable of comparison with others.

Despite reminders, not all 61 responded to my request (indicating perhaps that the limits of goodwill had been reached, or that my original assessment of them had been flawed- in which case their removal from the dataset was no bad thing) resulting in a dataset of 49 'effective networkers' for comparison. The referral chain for these 49 is shown at Appendix P: Effective Networker Referral Chain. The filter question responses (see section 4.4.1) from those not personally known to me, and leading to their acceptance into the 'Effective Networker' group, are at Appendix R: Effective Networker Filter Question Responses.

### **12.2.2 Identifying Ineffective Networkers**

Effective networkers are visible, almost by definition, while ineffective networkers are not (except in cases when they attain visibility for the wrong reasons), and I initially used the mechanism described in section 4.4.3 to identify and recruit suitable candidates.

Despite expressions of interest and even enthusiasm from the 15 outplacement and HR professionals approached, it soon became clear that recruitment using this mechanism would simply be too slow to work within the DBA timeframe. A number of factors account for this, as expressed to me by consultants:

- 1) the difficulty of keeping this research 'front of mind' with busy consultants
- 2) the unproven/unpublished nature of the inventory
- 3) economic downturn reducing consultant caseload
- 4) reluctance to use with a candidate whose ego may already be bruised

To date, this mechanism has yielded only four responses, but I expect this dataset to grow outside the confines of the DBA if and when the inventory proves its worth.

### **12.2.3 Self-Report**

For some time, my inability to identify a timely mechanism for recruiting poor networkers looked like bringing the entire research project to a halt, so I started to re-consider whether self-report might be a valid way forward.

As reported in sections 4.4.1 and 4.4.3, I had originally dismissed the idea of self-referral or self-report as being too susceptible to errors of self-perception (section 4.4.1), but on reflection it seemed that I should at least test whether a self-report mechanism might work. This decision was informed by two considerations:

- 1) inaccurate reporting by a few individuals would probably be smoothed by sample size across the dataset, resulting in a little changed mean but greater variance.
- 2) unsolicited comments about self-perceived networking efficacy by some of the 677 respondents to the second survey allowed me to make an 'ad hoc' correlation with their responses, and encouraged me in the idea that self-report might work.

Accordingly, I contacted by email all 677 survey respondents and all 49 effective networkers with a single additional inventory item:

I consider my own overall networking effectiveness to be:

- a) well below that of my peers
- b) below average
- c) average
- d) above average
- e) well above that of my peers

The reason for asking this question of the 'Effective Networker' group was to act as a 'reality check' on self-reporting. If self-reporting were indeed valid, I would expect all 'Effective Networkers' to rate themselves as at least 'above average' or 'well above average'.

The five outplacement respondents were not asked this question as a) access to them was, by agreement, solely through the outplacement consultant they had been referred by; and b) this was currently too small a group to warrant useful statistical analysis.

A combination of overtaxed goodwill and email bounces resulted in losing 246 of the original 677 survey respondents (despite reminders), giving rise to the self-report dataset shown below:

**Table 16: Project #2 self-report dataset**

<b>Source</b>	<b>Number</b>	<b>Male</b>	<b>Female</b>
Outplacement Referrals	5	3	2
Self-Report : Very Poor	14	11	3
Self-Report: Below Average	113	84	29
Self-Report: Average	168	103	65
Self-Report: Above Average	117	78	39
Self-Report: Well Above Average	19	10	9
Effective Networker	49	28	21
<b>TOTAL</b>	<b>485</b>	<b>317</b>	<b>168</b>

Age range was 25 – 80 years.

### **12.3 Limitations of Self-Report Methodology**

One proviso of this sampling method is that even those who rate themselves lowest have shown themselves to stand out from the crowd by making the effort to respond both to my initial request and to my subsequent requests. This raises the possibility that even those who self-report themselves as ‘poor’ will still perform better than a large proportion of non-responders.

Conversely, if this research does indeed show differences between effective and ineffective networkers in this largely self-reported population, it is conceivable that such effects would be even more marked in the population at large.

## **12.4 Sampling Methodology**

As indicated in section 8.2, repeated sampling of the same subjects was a drain on goodwill, whilst finding sizeable sources of new subjects was becoming ever more difficult.

For this reason, and aware that all questions making up the new nine factor, 34 item inventory had already been answered by all 677 respondents, I elected not to conduct a new survey to test the efficacy of the inventory in discriminating between effective and ineffective networkers, but to extract the relevant questions from earlier responses and re-analyse.

I have no reason to believe that there were any method effects to take into account, or that questions would have been answered differently had they been presented as a shorter 34 question inventory rather than the 49 item inventory they completed.

Similar reasoning was applied to 'slipstreaming' answers to new questions with those already supplied by my 'effective networker' group to create a 34 item response capable of comparison with that from other groups. This third and final iteration is at Appendix S: Third Iteration Inventory.

## CHAPTER THIRTEEN – PROJECT #2 RESULTS & ANALYSIS

### 13.1 Internal Consistency

Although Cronbach's alpha had been calculated for each of the inventory's earlier iterations, the emergence of a 'final' 34 item, nine factor inventory for operational use with 485 cases prompted me to look again at reliability, results of which are presented below:

**Table 17: Project #2 Cronbach's alpha, 485 cases**

	Cronbach Alpha	Scale Items
<b>Maintaining Contact (MAI)</b>	0.818	5
<b>Contact Management (CMA)</b>	0.600	3
<b>Persistence (PER)</b>	0.759	3
<b>Locus of Control (LOC)</b>	0.637	3
<b>Altruism (ALT)</b>	0.495	4
<b>Openness to Help (HLP)</b>	0.809	3
<b>Recall Ability (RCL)</b>	0.889	6
<b>Ease of Engagement (ENG)</b>	0.776	4
<b>Clarity of Purpose (PUR)</b>	0.555	3

PER and ENG exceed an alpha of 0.7, with MAI, HLP and RCL exceeding 0.8.

CMA, LOC, ALT and PUR do not achieve an alpha of 0.7, so their mean inter-item correlations are reported here in line with the explanation in section 5.2.6, in which Briggs and Cheek (op. cit.) recommend an optimal range for the inter-item correlation of 0.2 to 0.4.

:

**Table 18: Project #2 mean inter-item correlations, 485 cases**

	Mean	Min.	Max.	Range	Scale Items
Contact Management (CMA)	.345	.277	.469	.193	3
Locus of Control (LOC)	.365	.254	.486	.232	3
Altruism (ALT)	.206	.140	.293	.154	4
Clarity of Purpose (PUR)	.295	.267	.343	.077	3

The low scores for ALT and PUR signal concerns with these scales that are addressed later in the text.

### 13.2 Checking Assumptions Prior to Tests Between Groups

The dataset for this analysis comprised 485 cases in six groups: outplacement referrals, 'poor' self-reports, 'below average' self-reports, 'average' self-reports, 'above average' self-reports, 'well above average' self-reports and 'effective' networkers.

Proposed analysis was the one-way analysis of variance, followed by analysis of covariance to check for effects of age or sex. Prior to running this analysis, a number of assumptions about the data had to be checked.

#### 13.2.1 Level of Measurement

The 5 item Likert-type scale used for measurement can be treated as a continuous scale in line with the rationale offered in section 2.6.2.

#### 13.2.2 Independence of Observations

As far as I am aware, all responses were made independently and were unlikely to have been influenced by other observations or measurements. The one possible exception to this could be the suggestion that the 'effective networker' group knew that they had been recruited because of their perceived networking efficacy, and this could potentially have affected their responses. However, as the inventory does not contain any items which could be construed as 'right' or 'wrong', I think this unlikely.

### **13.2.3 Normal Distribution**

While the Kolmogorov-Smirnov test of normality (see Appendix K: Project #2 Results) reports a significant result (0.000) in all cases, Pallant (op. cit. p.62) suggests that this is not unusual in larger samples and with skewed scales.

All scales have varying degrees of skew (high or low end clustering) and kurtosis (peaking), reflecting the underlying construct rather than indicating a problem with the scale.

### **13.2.4 Homogeneity of Variance**

ANOVA makes the assumption that samples are obtained from populations of equal variances. Levene's test for equality of variances tests that this assumption has not been violated. This test (see Appendix K: Project #2 Results) shows a significance  $< 0.05$  for factors ALT, RCL and ENG, showing that the assumption has been violated for these factors.

Where the assumption of homogeneity of variances is violated, Pallant (op. cit.:246) suggests examining output of the Welch and Brown-Forsythe tests (shown in Appendix K: Project #2 Results) for these three factors.

Only ALT still fails, and given my concerns about other aspects of this factor (for example the very low Cronbach alpha reported at section 13.1), I am happy to accept this result.

## **13.3 Analysis of Variance (ANOVA)**

Useful analysis of differences between groups hinged on selection of the appropriate test and a One-Way Between Groups Analysis of Variance was chosen as the appropriate mechanism for analysis for each of the nine factors across the six groups represented by the dataset. Prior to running this test, certain parameters needed to be established:

### **13.3.1 Sample Size and Test Power**

The power of a test to correctly identify whether there is a difference between groups is dependent in part on sample size. According to Pallant (op. cit.:205) citing Stevens (Stevens, 1996), 'power is not an issue' when sample size is greater than 100 as it is here.

### **13.3.2 'Post Hoc' Analysis vs. Planned Comparison**

As the intention here was to investigate the relationship between all groups rather than an anticipated difference between specified groups, I opted to use 'post-hoc' comparison which (Pallant op. cit.:206) "is designed to protect against Type 1 errors... due to the large number of different comparisons being made".

According to Pallant (op. cit.:205), "a Type 1 error arises when it appears that there is a difference between groups which does not exist in reality. This can be minimised by selection of an appropriate alpha (typically 0.05 or 0.01, set by the researcher).

Additional protection against Type 1 errors came from the application of a Bonferroni adjustment to the alpha level used to judge statistical significance (Pallant op. cit. :206). The Bonferroni adjustment "involves setting a more stringent alpha level for each comparison, to keep the alpha across all the tests at a reasonable level."

## **13.4 ANOVA Results**

Homogeneity of variances has already been reported at section 13.2.4.

### **13.4.1 Statistical Differences Between Groups**

ANOVA output from SPSS (see Appendix K: Project #2 Results) shows significant differences ( $< 0.05$ ) between groups for every factor except ALT.

### **13.4.2 Multiple Comparisons**

Having found significant differences between groups for every factor except ALT, the Multiple Comparisons output from post-hoc tests indicated where significant differences between groups occurred.

An abbreviated summary appears at Appendix K: Project #2 Results, showing only those results found to be significant at the  $p < 0.05$  level:

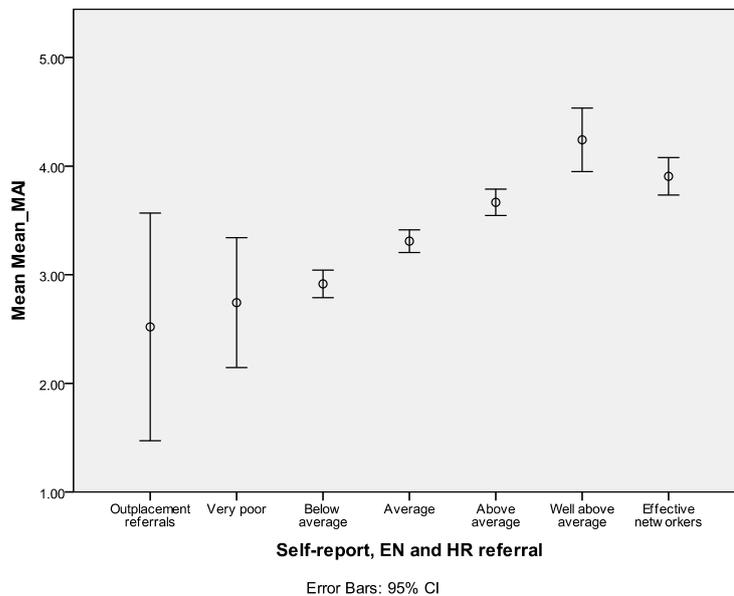
Seven of the factors appear capable of discriminating effectively between groups, but that ALT and HLP do not. This is discussed later.

It is also evident that no statistical difference is found for any of the nine factors between the 'Effective Networker' group and those who self-reported to have 'above average' networking skills. This is supporting evidence both for the validity of self-reporting and for the cohesiveness of the 'Effective Networker' group.

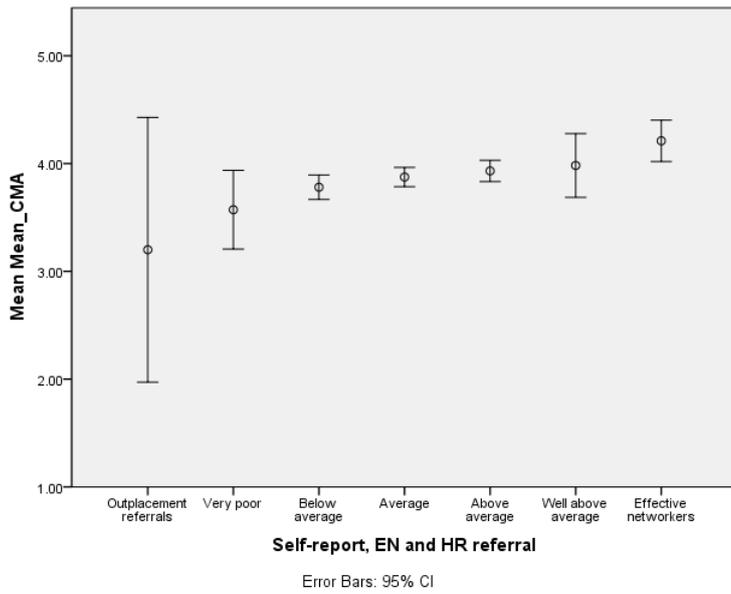
### 13.4.3 Means Plots

The following means plots provide a graphic depiction of the differences between groups.

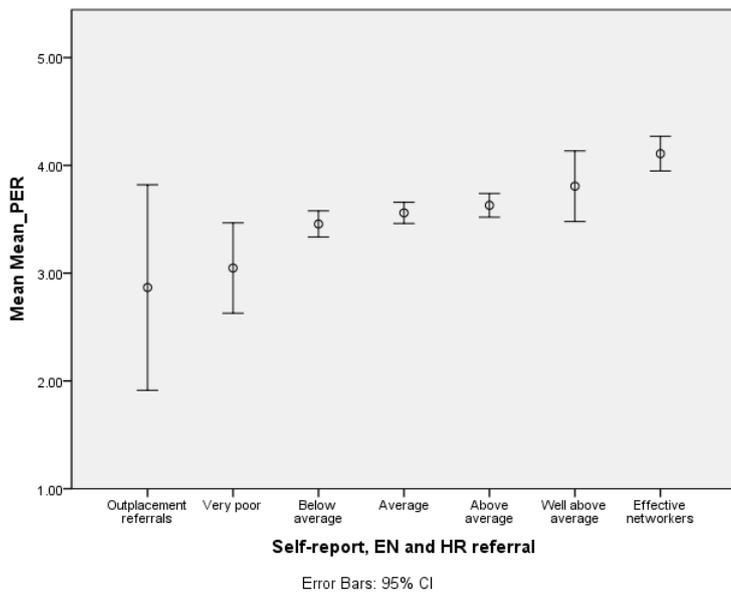
Represented graphically, it is perhaps misleading to plot the 'outplacement referral' group to the left of the 'poor' self-reports as there is no evidence that they are 'poorer' in any respect than those who self-report as 'poor'.



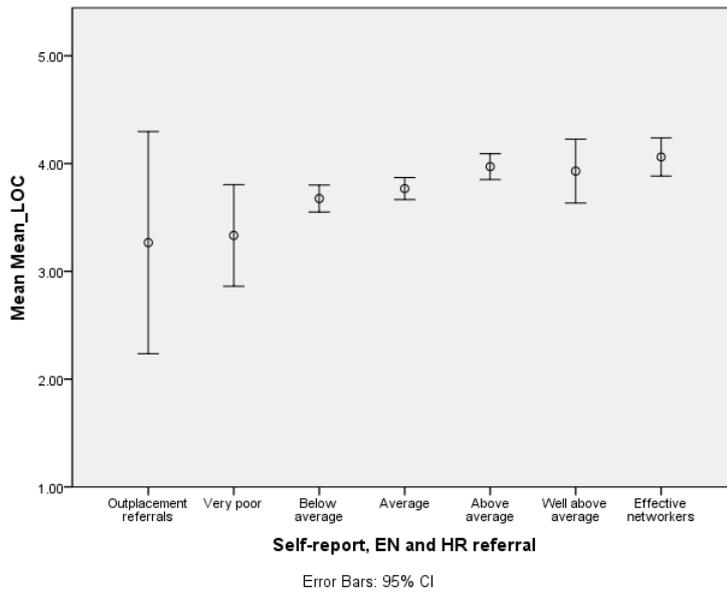
**Figure 10: Mean plot histogram MAI (Contact Maintenance)**



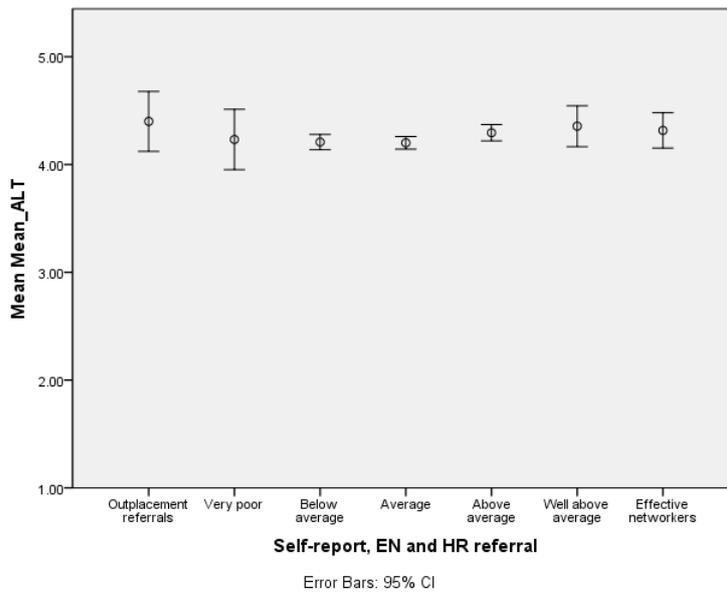
**Figure 11: Mean plot histogram CMA (Contact Management)**



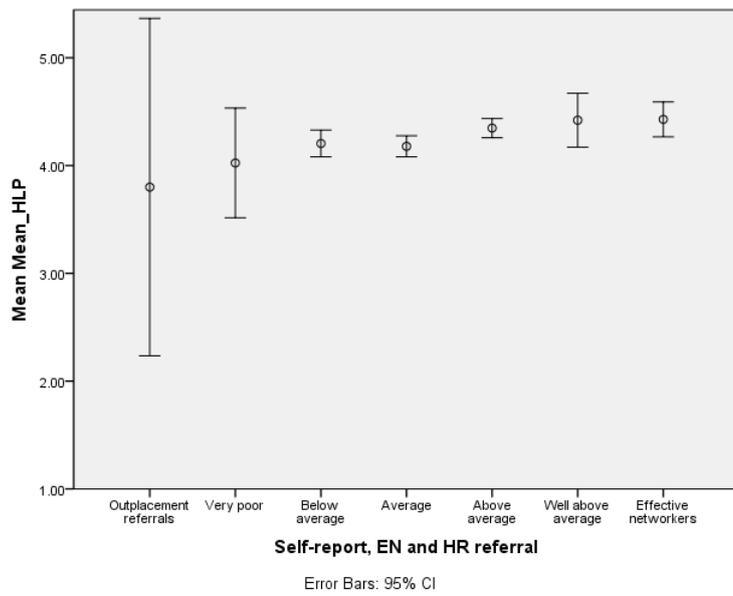
**Figure 12: Mean plot histogram PER (Persistence)**



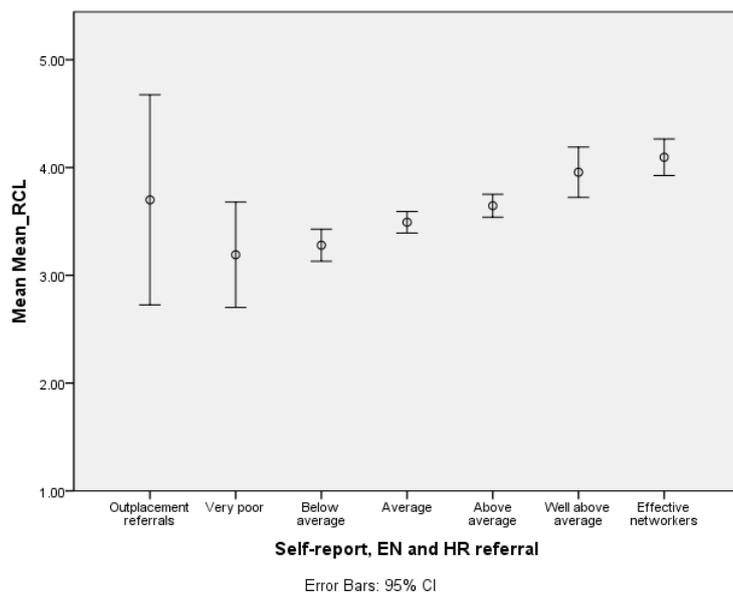
**Figure 13: Mean plot histogram LOC (Locus of Control)**



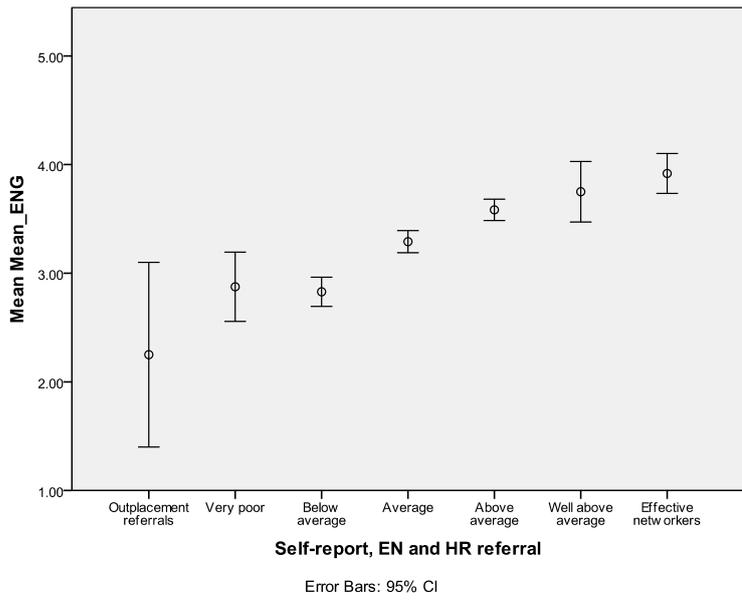
**Figure 14: Mean plot histogram ALT (Altruism)**



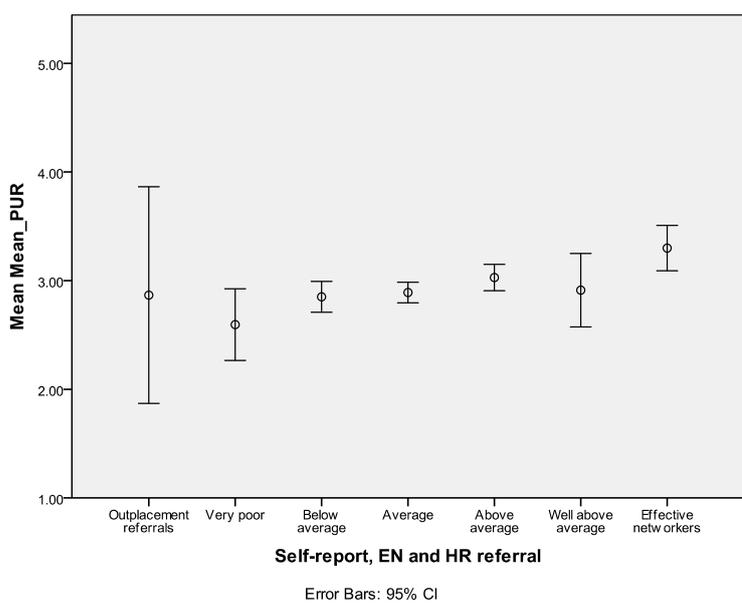
**Figure 15: Mean plot histogram HLP (Openness to Help)**



**Figure 16: Mean plot histogram RCL (Recall Ability)**



**Figure 17: Mean plot histogram ENG (Ease of Engagement)**



**Figure 18: Mean plot histogram PUR (Clarity of Purpose)**

Overall, the 'Effective Networker' group can be seen to perform marginally better on all factors except ALT and MAI even than the 'well above average' self-report group, and the efficacy of the self-report mechanism is borne out.

Of interest is the fact that the 95% error bars for the 'outplacement referral' group are in most cases wider than other groups, but this is such a small sample size (n=5) that I am reluctant to read anything into it. I considered conflating this sample with the 'poor' and 'below average' self-reports, based on the assessment of their referrers, or to omit this group from the analysis altogether until the dataset was larger. On balance, I elected simply to report the data as you see here.

### 13.5 Effect Size

With a large sample size, Pallant (op. cit.:207) states that "even very small differences between groups can become statistically significant." Accordingly, I calculated eta squared, for each of the significant factors using data from the Project #2 ANOVA results (Appendix K: Project #2 Results) where:

**Eta squared = sum of squares between groups/total sum of squares**

Pallant (op. cit. :247) cites Cohen as considering that 0.01 represents a small effect size, 0.06 a medium effect size and 0.14 a large effect size. Using these parameters, the eta squared calculation yields the following result in Table 19:

**Table 19: Project #2 effect size**

Factor	Between Groups Sum of Squares	Total Sum of Squares	Eta Squared	Effect Size
<b>Maintaining Contact (MAI)</b>	72.071	295.384	0.24	Large
<b>Contact Management (CMA)</b>	10.611	182.000	0.06	Medium
<b>Persistence (PER)</b>	23.189	215.305	0.11	Medium
<b>Locus of Control (LOC)</b>	13.431	224.641	0.06	Medium
<b>Openness to Help (HLP)</b>	6.051	188.651	0.03	Small
<b>Recall Ability (RCL)</b>	29.606	243.949	0.12	Medium
<b>Ease of Engagement (ENG)</b>	65.268	265.116	0.25	Large
<b>Clarity of Purpose (PUR)</b>	10.229	233.124	0.04	Small

The importance of effect size as opposed to significance is explained in the SPSS SamplePower help file far better than I could paraphrase it:

First, effect size focuses attention on the key issue. Usually, researchers and clinicians care about the size of the effect and the issue of whether or not the effect is nil is of relatively minor interest. For example, the clinician might recommend a drug, despite its potential for side effects, if he felt comfortable that it increased remission rate by some specific amount such as 20% or 30% or 40%. Merely knowing that it increased the rate by some amount exceeding zero is of little import. The effect size with confidence intervals focuses attention on the key index (how large is the effect) while providing likely boundaries for the lower and upper limits of the true effect size in the population.

Second, the focus on effect size rather than statistical significance helps the researcher and the reader to avoid some mistakes that are common (indeed ubiquitous) in the interpretation of significance tests. Since researchers primarily care about the size of the effect (and not whether or not the effect is nil) they tend to interpret the results of a significance test as though these results were an indication of effect size. For example, a p-value of .001 is assumed to reflect a large effect while a p-value of .05 is assumed to reflect a moderate effect. This is inappropriate because the p-value is a function of sample size as well as effect size. Often, the non-significant p-value is assumed to indicate that the treatment has been proven ineffective. In fact, a non-significant p-value could reflect the fact that the treatment is not effective but could just as easily reflect the fact that the study was under-powered.

### **13.6 Reassessment of Self-Report**

As a methodology check, I retrospectively invited all 49 'Effective Networkers' to self-report on their own efficacy, with results as tabulated below:

**Table 20: Efficacy self-report by 'effective networkers'**

<b>Self-report of networking efficacy</b>	<b>Number</b>
Average	2
Above average	14
Well above average	8

The dataset is incomplete but clearly indicates a discrepancy in some cases between self-perception and referrer's perception. So despite the apparent success of the inventory in being able to distinguish between self-reported groups, the knowledge that self-reports might vary by at least one unit on a Likert-type scale sounded a note of caution and prompted me to perform a re-analysis of the data in which respondents were recoded as being:

- 'below average' (combining previous 'very poor' and 'below average' groups)
- 'average' (previous group retained)
- 'above average' (combining previous 'above average' and 'well above average' groups)

The rationale for this re-coding was that if respondents had no specific thoughts about their networking efficacy, they were liable to self-report as 'average'. Only if they perceived strengths or weaknesses in their efficacy would they self-report otherwise, the strength of that expression perhaps reflecting modifying factors such as self-deprecation or modesty.

As the dataset was identical to that used in the previous analysis, tests for ANCOVA assumptions are not reported. The summary below indicates that the inventory largely maintains its ability to discriminate between 'above average', 'below average' and (incidentally) 'average' and 'effective' networkers even with this coarser grouping.

**Table 21: ANOVA Project #2 post hoc summary**

Factor	'Below Average' can discriminate at significant level (P<0.05) from:
Maintaining Contact (MAI)	Average <b>Above Average</b> Effective
Contact Management (CMA)	Effective
Persistence (PER)	<b>Above Average</b> Effective
Locus of Control (LOC)	<b>Above Average</b> Effective
Recall Ability (RCL)	<b>Above Average</b> Effective
Ease of Engagement (ENG)	Average <b>Above Average</b> Effective
Clarity of Purpose (PUR)	Effective

ALT and HLP are once again missing from this list. While discriminatory ability has clearly decreased, it gives me confidence that the inventory is not sensitive to risks from occasional over/under self-reporting by individuals.

### **13.6.1 Effect Size**

As previously, I calculated eta squared to give an indication of effect size, tabulated below:

**Table 22: Eta Squared for above avg, avg, below avg ANOVA**

Factor	Between Groups Sum of Squares	Total Sum of Squares	Eta Squared	Effect Size
Maintaining Contact (MAI)	66.347	295.353	0.22	Large
Contact Management (CMA)	10.069	181.988	0.06	Medium
Persistence (PER)	22.865	213.709	0.10	Medium
Locus of Control (LOC)	20.169	224.606	0.05	Small
Openness to Help (HLP)	5.441	187.806	0.03	Small
Recall Ability (RCL)	27.325	243.949	0.11	Medium
Ease of Engagement (ENG)	63.530	262.674	0.24	Large
Clarity of Purpose (PUR)	8.976	232.224	0.04	Small

### **13.7 Analysis of Covariance (ANCOVA) to Test for Age and Sex Effects**

Analysis of covariance was carried out to determine whether subject age or sex was influencing any of the nine factors. Tests were conducted separately rather than trying to control for two covariates at the same time.

Relevant assumptions of ANCOVA were considered as follows:

#### **13.7.1 Influence of Treatment on Covariate Measurement**

Age and sex were recorded at time of inventory response, and were not in any way influenced by manipulation of the dataset.

#### **13.7.2 Reliability of Covariates**

Assuming accurate self-reporting, age and sex could both be assumed to be accurate. 15 cases were lost to the age analysis through (presumably) personal sensitivity about reporting age.

### **13.7.3 Effects of Age**

Respondents age is tabulated in Appendix K: Project #2 Results. An ANCOVA test analysed whether there was any effect of age on group membership. Most of the results were not significant at the  $p < 0.05$  level, other than those for factors LOC, RCL, ENG shown in Appendix K: Project #2 Results.

Using Cohen's criteria for effect size as discussed in section 13.5 that "0.01 represents a small effect size, 0.06 a medium effect size and 0.14 a large effect size", the effect size for all three can be seen to be small at 0.022, 0.015 and 0.016 respectively.

These results signify that age may have a minor moderating influence on self-reported networking efficacy, but that this is limited to three factors out of nine, and is a small effect.

A further ANCOVA test for any relationship between age and factor within different groups showed that none of the results except HLP (reported at Appendix K: Project #2 Results), were significant at the  $P < 0.05$  level.

The fact that this ANCOVA result for HLP indicates a correlation of small effect size (0.037) between age and factor within self-reported networking efficacy groups is interesting in that while there appears to be an interaction between the variables 'group' and 'age', the main effect for 'age' is not statistically significant (0.326).

This finding highlights the problematic nature of the 'HLP' factor that is discussed further in the next chapter.

### **13.7.4 Effects of Sex**

An ANCOVA test analysed whether there was any interaction between sex and group. Most of the results were not significant at the  $P < 0.05$  level other than those for MAI and RCL (reproduced at Appendix K: Project #2 Results) which suggest that for these two scales, women perform better than men albeit at a small effect size (0.043 and 0.023 respectively).

A further ANCOVA test for any relationship between sex and factor within different groups revealed that none of the results were significant at the  $p < 0.05$  level.

## CHAPTER FOURTEEN – DISCUSSION

### 14.1 Summary of Findings

Having established in chapter nine that the revised inventory was fit for purpose, Table 23 summarises the efficacy of the nine inventory factors in discriminating between effective and ineffective networkers:

**Table 23: Efficacy of the nine factors in discriminating between effective networkers and others**

Factor	Discriminates Between Effective Networkers And:	Effect Size
Maintaining Contact (MAI)	Outplacement referrals	Large
	Very poor	Large
	Below average	Large
	Average	Large
Contact Management (CMA)	Outplacement referrals	Medium
	Very poor	Medium
	Below average	Medium
	Average	Medium
Persistence (PER)	Outplacement referrals	Medium
	Very poor	Medium
	Below average	Medium
	Average	Medium
	Above average	Medium
Locus of Control (LOC)	Very poor	Medium
	Below average	Medium
Recall Ability (RCL)	Very poor	Medium
	Below average	Medium
	Average	Medium
	Above average	Medium
Ease of Engagement (ENG)	Outplacement referrals	Medium
	Very poor	Medium
	Below average	Medium
	Average	Medium
Clarity of Purpose (PUR)	Very poor	Small
	Below average	Small
	Average	Small

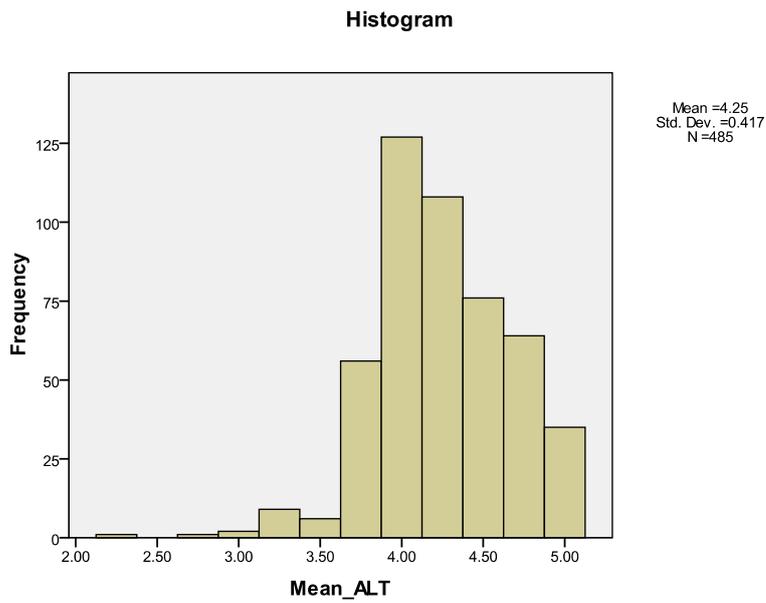
It appears that scales MAI, CMA, PER, LOC, RCL, ENG all have acceptable ability to discriminate at an acceptable effect size between effective networkers and those of poor or below average networking efficacy. Of these, only LOC fails to be able to discriminate between effective networkers and those of average ability.

PUR also has statistically significant ability to discriminate between groups, but while the effect size is small under the definition offered by Cohen (op. cit.), it is edging towards medium so should not be discounted.

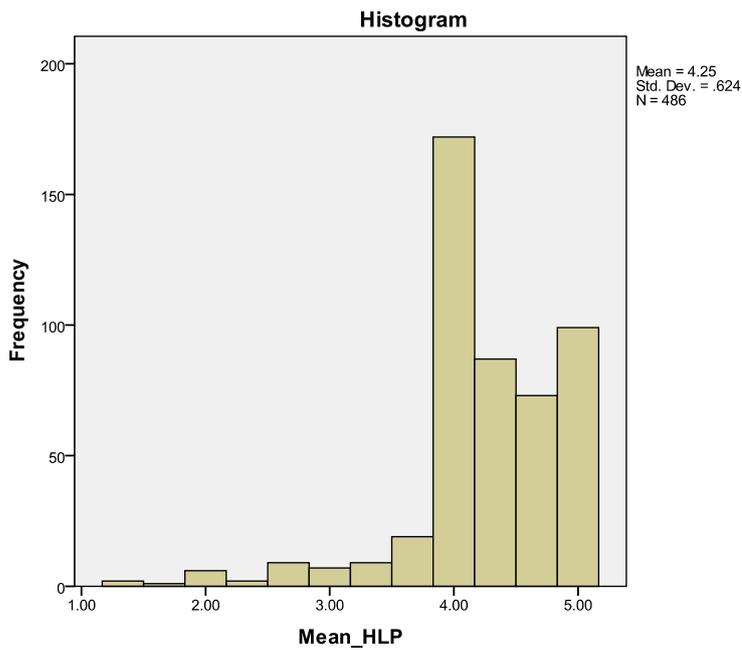
The two scales which show no discriminative ability across groups are ALT (altruism) and HLP (Openness to Help). I am reluctant to remove these from the inventory at this stage because I suspect that their lack of sensitivity may be due to my sampling method. Every response in the dataset (other than the five outplacement referrals) came from someone who willingly contributed, in most cases for the benefit of someone they had never met, via a 'cold' email, and with absolutely no indication of any direct benefit accruing to them by participating (high ALT).

I suspect that the generally high HLP scores across groups arises from the same source: most of my dataset came from 'LinkedIn' members, and anyone belonging to such a group may be more likely to be more open to receiving help than non-members.

An examination of the ALT and HLP mean histograms shows that while scores are generally skewed to the right, there are enough responses on the left hand side to justify further examination of these scales with a different dataset, and to consider re-wording questions within these scales to better specify these factors within the networking context. .



**Figure 19: ALT (Altruism) mean histogram**



**Figure 20: HLP (Openness to Help) mean histogram**

Given the evident discriminatory ability of the inventory as a whole, I do not plan to further test the discriminatory efficacy of the ALT and HLP scales within the confines of the DBA, but plan to do so independently as the scope of my dataset broadens. For this reason, and to maintain the integrity of the current iteration of the inventory I will continue to collect data for existing ALT and HLP scales.

## 14.2 Review of Project Propositions

In section 8.4, I proposed two Project #2 propositions, which are re-stated below.

Project #2, Proposition 1 was:

**...that revisions to the networking inventory developed in Project #1 will result in a typology and an inventory suitable for operational use.**

As reported in chapter 11, the nine factor solution carried through from project #1, and the model suggested by EFA has been confirmed by the various 'model fit' indices calculated during CFA.

Scales MAI, PER, HLP, RCL and ENG all exceed the accepted 'minimum' Cronbach alpha of 0.7. This is gratifying in light of how difficult it can be to reach acceptable alphas with scales of less than 10 items.

The remaining CMA, LOC, ALT and PUR scales all meet the Briggs & Cheek (op. cit.) 'optimal range' for inter-item correlation, suggested as an alternative reporting form for short scales.

Scale length is now satisfactory, with at least three items per scale, and at 34 questions (with additional questions to collect personal data), the inventory is now at a length acceptable for use in the workshop environment or for completion online without introducing method effects arising from time to complete the inventory.

Accordingly, I conclude that Proposition 1 is supported.

Project #2, Proposition 2 was:

**...that the revised inventory will be able to discriminate between effective and ineffective networkers.**

Seven of the nine factors proposed have been shown to be capable of discriminating at significant level between effective and less-effective networkers. For six of these factors, the effect size is large or medium. Accordingly, I conclude that Proposition 2 is supported.

## **CHAPTER FIFTEEN – TOWARDS PROJECT #3**

### **15.1 The Effect of an Intervention**

In section 1.4.3, I specified Project #3 as being a 'before' and 'after' study to assess the effect of a one day networking training workshop.

Having shown the inventory to be able to discriminate between effective and ineffective networkers, I planned to make use of it to determine whether a one day networking workshop is capable of transforming someone who is an ineffective networker prior to the workshop into an effective networker afterwards.

I realised that within my existing Project #2 dataset were 126 individuals (out of 485) who had self-reported as having poor or below average networking skills. All were invited to participate in an open workshop in June 2011, of whom six attended (geography being the major stumbling block for many would-be participants).

### **15.2 Project #3 Sample Size and Power**

An important consideration is effect size, and an effect size calculation using SPSS SamplePower v1.2 indicated that in order for my analysis to be able to discriminate at the level of 0.5 of a Likert-type scale unit, with 95% probability of demonstrating a significant effect and with  $p < 0.05$ , I would need a minimum of 51 respondents in each group.

The reason for running a power analysis is explained by the SamplePower manual:

A power analysis, executed when the study is being planned, is used to anticipate the likelihood that the study will yield a significant effect and is based on the same factors as the significance test itself. Specifically, the larger the effect size used in the power analysis, the larger the sample size, and/or the more liberal the criterion required for significance ( $\alpha$ ), the higher the expectation that the study will yield a statistically significant effect.

### **15.3 Project #3 ‘Proof of Concept Using Dummy Data**

While creating the spreadsheet and SPSS templates needed for project #3, it occurred to me that not only could they could be tested by using some of my existing data, but that this testing might act as an early bell-weather as to its eventual success.

#### **15.3.1 Paired Sample T-Tests on Dummy Data**

I made the assumption that if the proposed intervention were successful, a self-reported ‘below average’ networker might well metamorphose into an average one (by the measures of the inventory). I already had seven Project #3 subjects (all self-reported as ‘below average’) which I matched for sex and age with seven others from my 485 case dataset who had self-reported to be ‘above average’, and whose results I used to model a set of post workshop results from a group that had learned how to perform better.

Duplicating these data seven times to create a 49 case dataset to meet the Cohen’s ‘d’ demand for effect size, I then ran paired samples T-tests for all nine factors (see Appendix L: Pre-Project #3 Dummy Data Results) with significant results ( $p < 0.05$ ) for everything other than the problematic ALT factor.

I was intrigued to find out whether a similar result might arise if I could only convert respondents from ‘below average’ to ‘average. Using the same mechanism with ‘average’ self-reports in place of ‘above average’ to model the post workshop situation yielded another encouraging result (shown in Appendix L: Pre-Project #3 Dummy Data Results), with eight of nine factors showing significant differences ( $p < 0.5$ ). Surprisingly, the CMA factor was not significant, but I reassured myself that this was dummy data.

I repeated the process a third time to see what would happen if I could convert ‘average’ performers into ‘above average’ performers, and this time the results were more equivocal if still positive with five of the nine factors (MAI, CMA, LOC, RCL, ENG) proving significant ( $p < 0.05$ ). Results are tabulated at Appendix L: Pre-Project #3 Dummy Data Results

### 15.3.2 Effect Size

As this exercise was carried out primarily to test the data management tools I had created for Project #3, I carried out an effect size calculation only for the first of the scenarios created, with the following result using Cohen's (op. cit.) guidelines for effect size as 0.01 being small, 0.06 moderate, 0.14 large.

**Table 24: Effect size for dummy data**

Factor	t value	N value	Eta Squared	Effect Size
Maintaining Contact (MAI)	-6.763	48	0.493	Large
Contact Management (CMA)	-4.076	48	0.261	Large
Persistence (PER)	-0.965	48	0.019	Small
Locus of Control (LOC)	-8.167	48	0.587	Large
Altruism (ALT)	1.315	48	0.035	Small
Openness to Help (HLP)	-1.188	48	0.029	Small
Recall Ability (RCL)	-2.646	48	0.130	Moderate
Ease of Engagement (ENG)	0.41095	48	0.004	Small
Clarity of Purpose (PUR)	-0.275	48	0.002	Small

### 15.3.3 Project #3 Delivery

The original schedule was that I would deliver my Project #3 report by Dec 2011. A number of factors contributed to being unable to collect a large enough dataset within that timeframe, including:

- the effects of the economic downturn, evidenced in the business school sector (our largest source of clients) by the Guardian's 20 Oct 2010 coverage of the government's spending review with the headline "Universities alarmed by 40% cut to teaching budgets" (Vasagar, 2010). In the facilities sector (source of a formerly valuable repeat, satisfied client), Construction News (Sidders, 2011) ran the retrospective headline that "Quarter of contractors cut training budgets in 2010", citing research by CITB-ConstructionSkills.
- an accelerating drive towards e-learning, to which the workshop approach is not well suited

- an increasing focus on 'social media' and teaching the use of sites such as 'LinkedIn' in line with the perspective offered at section 2.1
- a temporary shift in my own focus as a result of work and domestic circumstances.

## **CHAPTER SIXTEEN – PROJECT #3: THE INVENTORY IN AN ‘AB’ RESEARCH STUDY**

### **16.1 Introduction to Project #3**

The endpoint of Project #2 was the conclusion that the inventory devised as the output of Project #1 was capable of discriminating on several factors at a significant level and with reasonable effect size between a cohort of effective networkers and others.

If the networking skills workshops run by myself and my colleague do indeed improve the networking skills of participants, then it is logical to suggest that any such improvement could be measured by the same instrument testing the one cohort longitudinally over time (i.e. before and after a planned intervention) rather than two cohorts as a cross section as per Project #2.

### **16.2 Project #3 Propositions**

Project #3, Proposition 1:

**...that there will be a statistically significant improvement between pre- and post-intervention scores on one or more of the nine Newton Networking Inventory factors.**

Project #3, Proposition 2:

**...that if Proposition 1 is supported, different factors will assume significance within defined sub groups of a heterogeneous dataset.**

Project #3, Proposition 3:

**...that if Proposition 1 is supported, a causal relationship can be demonstrated between a networking skills workshop intervention and this improvement.**

### **16.3 Project #3 Methodology**

From the conclusion of Project #2 onwards, all invitees to networking skills workshops run by myself or my business partner were invited to complete an online pre-workshop questionnaire hosted by SurveyMonkey. This questionnaire was identical to that developed in Project #1 and used in Project #2.

A hyperlink to the questionnaire was sent either directly to participants in the case of open workshops, or via the programme office for university-hosted events. In both cases, the invitation was sent one to two weeks prior to the event as being a sensible timeframe in which to encourage participation. If response rates seemed sluggish, a reminder was sent one or two days before the event.

At conclusion of the intervention, participants were either invited to complete our usual 'happy sheet' feedback and/or the university's own feedback mechanism. All participants for whom we had a valid email address would receive our usual 'thanks for coming' email and associated LinkedIn invitation within a week of the event. This did not mention this research or the upcoming follow-up questionnaire.

A minimum of four weeks after delivery of the workshop, all those who had completed the pre-workshop questionnaire and provided a valid email address were invited to complete an identical questionnaire .

#### **16.3.1 Defence of the 'AB' Research Design**

The decision to use a simple 'AB' (or 'pre- and post-intervention') experimental design for Project #3 was initially intuitive, but Saunders, Lewis & Thornhill (2009) confirm that such a design, without a second group to act as a control, was indeed appropriate:

“In a within-subjects design...there will only be a single group...In this approach, every participant is exposed to the planned intervention....For this reason this approach is known as repeated measures. The procedure involves a pre-intervention observation or measurement, to establish a baseline (or control for the dependent variable). This is followed by a planned intervention (independent variable) and subsequent observation and measurement (related to the dependent variable).”

The issue of a control is discussed in section 16.8, but at the time at which the research was being planned, I could not think of any practical and timely way in which to identify and test a matched 'non-participant' group.

### **16.3.2 Rationale for One Month Follow Up**

Choosing an appropriate follow-up interval required a balance to be struck between academic/professional credibility and pragmatism. Choosing too short an interval would invite the criticism that responses could suffer from the 'feelgood' factor or 'halo effect' - an enjoyable or useful event but not necessarily longevity of learning. Too long an interval might result in participants having mentally 'moved on' from the workshop and feeling less of a psychological contract to respond even if the learning itself had been powerful. One might argue that if our training had been effective, people well attuned to networking ought to be better at responding, and so a longer interval would support the claim for retained learning.

In a similar workshop-based research design, Fallowfield (2002) demonstrated that doctors' communication skills were retained at three-month follow up, but pragmatically, I recognised that a such a long interval could see business school/university students completing their courses with the risk of being lost from the dataset if (for example) forwarding was not set from university email addresses (a lesson learnt from the 'bounce' rate of our occasional email newsletters to workshop participants).

Discussion with colleagues and anecdotal communications from workshop participants over several years suggested that a one month follow-up would provide an appropriate interval to allow fall-off of any 'feelgood factor' and integration of messages into participants' normal lives. I considered randomly re-ordering questions to avoid the possibility of a 'method effect' bias, but anecdotal enquiry with those who had completed multiple questionnaires as part of Projects #1 and #2 reassured me that participants did not recall either specific answers given or the question order.

Support and precedent for selection of this interval in a similar workshop based 'AB' research design is provided by Ajuwon & Kass (2008) in which 'before and after' administration of a 23-item Likert-type

scale in a research ethics training workshop (n=97 before, n=59 one month after) was used to show that “participants retained much of the knowledge acquired from the workshop one month after its completion.”

### **16.3.3 A Semantic Issue**

The importance of semantics was once again brought home to me in a February 2012 email from an open workshop participant (initials MG) following completion of the one month follow-up post- workshop questionnaire:

*If some of the answers are more negative than previously it shows greater self-awareness as a result of the course, not a negative impact!*

*At least I now know what I need to work on.*

On reviewing the questionnaire in this light, and after discussion with the person concerned, it was apparent that the comment actually centred only on the final question in terms of the possibility of eliciting a different response from that anticipated. This question asked the following about how one’s self-perceived networking efficacy compared to that of one’s peers:

*I consider my own overall networking effectiveness to be:*

Clearly, if increased self-awareness results in gauging more accurately one’s own abilities, then it is quite possible to report decreased self-perceived efficacy after the intervention than before it, even if analysis of responses to all other questions demonstrate increased actual efficacy.

Recognising its potential deleterious effect on the research if not clarified, I changed the wording of the final question in all subsequent questionnaires to read:

*The information gained from the workshop enables my own overall networking effectiveness to be:*

In order to achieve consistency of data, I emailed the amended final question to all 53 respondents to date with an explanation of the request and asking them to provide a response to this one question:

Dear colleague,

I'm writing to all those who have participated in my networking research to ask a single question that was poorly worded in the original survey.

The final question asked how you rated your own networking abilities relative to your peers before and after the workshop: that seemed fine until someone pointed out that before the workshop she didn't know just how much she could be doing and was in blissful ignorance- so in the post-workshop questionnaire, she rated herself worse than she started!

I've reworded that one question to try to capture whether the workshop gave you useful tools, so here's the question:

**The information gained from the workshop enables my own overall networking effectiveness to be:**

- 1...Well below that of my peers
- 2...Below average
- 3...Average
- 4...Above average
- 5...Well above that of my peers

All I need you to do is ping me back by email a number 1 to 5 corresponding to the possible answers above.

Very many thanks,

Tony

Where responses were given (19 out of 53 cases), the dataset was updated with this one response, where not, the original response was allowed to stand on the assumption that either the recipient saw no need to alter their original response or did not feel strongly enough about the matter to warrant a reply.

**Table 25: Responses to amended final question**

	Original	Revised	Change
Participant 1	3	4	+1
Participant 2	3	4	+1
Participant 3	2	2	0
Participant 4	3	4	+1
Participant 5	3	4	+1
Participant 6	4	4	0
Participant 7	3	3	0
Participant 8	3	3	0
Participant 9	4	4	0
Participant 10	3	4	+1
Participant 11	3	4	+1
Participant 12	3	3	0
Participant 13	3	4	+1
Participant 14	2	2	0
Participant 15	4	4	0
Participant 16	2	3	+1
Participant 17	2	4	+2
Participant 18	2	4	+2
Participant 19	2	3	+1

Updating the original dataset with amended responses to this single question is justified on the basis that an answer given a year or more after the intervention would be a clear statement of the value of the workshop rather than any 'feelgood' factor or other bias. Indeed, if the answer indicated a more pronounced benefit with time, this could only indicate the embedded long term nature of the learning delivered.

As can be seen from Table 25, all the responses received indicated either an increased score (11 of 19 responses) or no change. This justifies the change of wording as being a more accurate representation of what the workshop was intended to achieve.

But what if participants routinely overestimate their skillset with respect to their peers and only when exposed to the realities of networking recognise that they are not as good as they think they are? This issue is addressed later through selective analysis of the dataset.

#### **16.3.4 Adding a 'Sweetener'**

It became evident as the project progressed that response rates to the one month follow-up were lower than anticipated. Possible reasons are discussed later, but I decided in May 2012 that a mild inducement to participate might be worthwhile and started to include the following lines in my covering email containing the link to the one month follow-up questionnaire:

To encourage you to take part, and in recognition of your time input helping with this research, every person who has completed both parts of the survey at the point at which my data collection closes will be entered into a draw for Amazon vouchers to the value of 5 x UKP10, 1 x UKP 25 and 1 x UKP 100- that works out at something like a 7% chance of getting a decent return on your time investment.

Other factors may have been in play, but for interest and using data presented later in section 16.4, I report that the response rate post-sweetener resulted in a 27% completion: participant ratio compared with 36% pre-sweetener, suggesting that the term 'sweetener' might have been a misnomer.

#### **16.3.5 The 'Last Call' Email**

I discovered anecdotally that some people failed to respond to the one month follow-up simply through inaction rather than wilful disinterest or active rejection of the intervention messages.

Recognising that workshop participants may be academically or professionally stretched and time-poor, and that early Project #3 participants may not have been exposed to the 'sweetener' mentioned above, I sent a 'last call' email on 4 May 2012 to 89 names.

Within two days, I had eight responses then nothing further, demonstrating starkly the truth known to all with a full inbox that if a 'call to action' email is not dealt with immediately, it is likely to be buried and not revisited.

#### **16.3.6 Project #3 Sample Size, Power and Data Collection End Point**

A sample size calculation for Project #3 using SPSS SamplePower was presented at section 15.3.2, demonstrating that in order to be able to discriminate at a level of 0.5 of a Likert-type scale unit with 95% probability of demonstrating a significant effect, I would need a minimum of 51 pre- and post- test

respondents. I refer back to the discussion at section 15.3.2 of the difference between significance and power as related to sample size.

I was aware that consideration of the dataset as a whole was only one of the analyses I would want to conduct, but that continuation of data collection until I had a minimum of 51 in all of the data subsets would make timely delivery of a DBA research project impossible. However, this remains an aspiration and is discussed further in the next chapter.

Although data collection continues, (with at least another 20-30 participants awaiting one month follow-up at time of writing in April 2013), I opted for a data collection endpoint informed by the need to deliver a completed DBA thesis for examination within the 2013/14 academic year in line with the six year Durham DBA programme.

### **16.3.7 Limitations on Data Collection**

The only limit on data collection was the financial recession, and we conducted fewer workshops during the data collection period than in prior years, reducing participant numbers to a level not anticipated during the earlier part of this research.

### **16.4 The Project #3 Dataset**

As tabulated below, the dataset for Project #3 comprises data from 13 workshops between June 2011 and January 2013, of which I presented six (292 attendees) and Judith Perle seven (135 attendees).

Only two of these events are 'open' workshops, and these have a smaller number of participants than the 'closed' equivalent. The relevance of this is discussed later.

The percentage of those attendees who have completed the entire survey process (25%) compares with a similar research methodology used by Auwon & Kass (op. cit.:4) which recorded a participant: completion ratio of 44% (59/133).

**Table 26: Project 3 dataset**

Location	Date	Presenter	Level	No. attendees	No. completed pre-workshop survey	No. Completed 2 <sup>nd</sup> survey	Ratio completed 2 <sup>nd</sup> survey: attendees (%)	Ratio completed 2 <sup>nd</sup> survey: completed 1 <sup>st</sup> survey (%)	Ratio completed survey process: attendees (%)
Open	Jun-11	TN	Mid/senior manager	6	6	4	67	67	67
Aberdeen	Jul-11	JP	MBA	16	19	7	44	37	44
City	Sep-11	JP	MBA	6	6	3	50	50	50
EBS	Oct-11	JP	MBA	27	15	3	11	20	11
HEC	Oct-11	TN	MBA	103	53	21	20	40	20
City	Mar-12	JP	MBA	8	4	3	38	75	38
Aberdeen	Jan-12	JP	MBA	24	4	2	8	50	8
Open	Jan-12	TN	Mid/senior manager	6	6	4	67	67	67
HEC	Feb-12	TN	MBA	96	35	21	22	60	22
EBS	Oct-12	JP	MIL*	24	17	4	17	24	17
HEC	Nov-12	TN	MBA	57	83	19	33	23	33
Newcastle	Nov-12	TN	BA	24	19	11	46	58	46
Aberdeen	Jan-13	JP	MBA	30	17	4	13	24	13
<b>Total</b>				<b>427</b>	<b>284</b>	<b>106**</b>	<b>25%</b>	<b>37%</b>	<b>25%</b>

\* MIL= Masters in Information Leadership

\*\* six results discarded from final analysis through lack of name, age or email address

## 16.5 Project #3 Results

A paired-samples t-test is the chosen tool to examine one population under two different conditions (in this case pre- and post- intervention), if a normal distribution is demonstrated or assumed.

According to Pallant (op. cit. p 238), an additional condition for use of the t-test is that: 'the difference between two scores obtained for each subject should be normally distributed. With sample sizes of 30+, violation of this assumption is unlikely to cause any serious problems.'

Rationale for selection of particular sub-groups for analysis is given at section 16.6

### **16.5.1 The Kolmogorov-Smirnov Statistic for Test of Normality**

Some selective analyses undertaken on the Project #3 dataset have a sample size less than 30. For these, normality of both the pre-workshop dataset and of the difference between the two scores obtained was examined using the Kolmogorov-Smirnov statistic in which a non-significant result ( $p > 0.05$ ) indicates normality of the sample. Only samples where  $n < 30$  were tested, as in all others normality was assumed in line with Pallant's recommendation.

A summary of normality test findings appears at Appendix M: Project #3 Results. If found not to be normally distributed, the Wilcoxon Signed Rank Test was used as a non-parametric alternative to the t-test.

### **16.5.2 Paired-Sample T-Tests and Wilcoxon Signed Rank Tests**

Results of paired-sample t-tests on assumed normally distributed samples, and Wilcoxon Signed Rank on non-normally distributed samples are tabulated below.

Given the small sample size used in some of the analyses, and in an effort to capture the overall direction of the data, I have included both significant results at the  $p < 0.05$  level and those which are trending towards significance below  $p < 0.1$ .

### **16.5.3 Effect Size**

Effect size, the definition and purpose of which was discussed in section 13.5, was calculated using eta squared for those samples subjected to a paired-samples t-test. For those subjected to the Wilcoxon Signed Rank Test, an approximate value for effect size was calculated (as per Pallant, op. Cit.:225) using 'z' value returned by the test in the formula:

$$\text{Effect size} = z / \text{square root of } N$$

where N = total number of observations over both time periods

### 16.5.4 Summary of Project #3 Results

Significant results and their corresponding effect sizes are tabulated below.

Shaded cells show 5% significance level (\*\*), and unshaded cells show 10% significance level (\*).

**Table 27: Project 3 Results at 5% and 10% significance levels**

Key to table:

Preselfrep = pre-workshop self-reported networking efficacy

Postselfrep = one month post-workshop follow-up self-reported networking efficacy

			Altruism	Contact management	Preparedness to engage	Openness to Help	Locus of control	Contact maintenance	Persistence	Clarity of purpose	Recall ability
	Test	n	ALT	CMA	ENG	HLP	LOC	MAI	PER	PUR	RCL
Whole Dataset	t-test	100							p= 0.067 * ES: small		
Open workshops only	t-test	8	p= 0.026 * ES: large								
Age <30	t-test	38						p= 0.042 ** ES: mod			
Age 30-39	t-test	49		p= 0.004 ** ES: large							
Age 40-49	t-test	7							p= 0.070 * ES: large	p= 0.078 * ES: large	
Age 50+	t-test	5			p= 0.051 ** ES: large						p= 0.007 ** ES: large
Female only	t-test	39		p= 0.045 ** ES: mod							
Male only	t-test	61	-	-	-	-	-	-	-	-	-

Postselfrep >preselfrep	t-test	56			p= 0.010 ** ES: mod	p= 0.029 ** ES: mod					
Preselfrep ≤2 and Preselfrep ≥ postselfrep	t-test	11							p= 0.012 ** ES: large		
Female only Preselfrep ≤2 and Preselfrep ≥ postselfrep	t-test	5	-	-	-	-	-	-	-	-	-
Male only Preselfrep ≤2 and Preselfrep ≥ postselfrep	t-test	6							p= 0.002 ** ES: large		
Preselfrep ≥4 and Preselfrep ≥ postselfrep	t-test	16			p= 0.068 * ES: large				p= 0.094 * ES: large		p= 0.084 * ES: large
Female only Preselfrep ≥4 and Preselfrep ≥ postselfrep	t-test	7	-	-	-	-	-	-	-	-	-
Male only Preselfrep ≥4 and Preselfrep ≥ postselfrep	t-test	9	-	-	-	-	-	-	-	-	-
Female and postselfrep > preselfrep	Wilcoxon	20			p= 0.035 ** ES: mod						
Female and preselfrep ≤2	t-test	16			p= 0.029 ** ES: large						
Male and postselfrep >preselfrep	t-test	35			p= 0.065 * ES: mod	p= 0.048 ** ES: mod	p= 0.098 * ES: mod				
Male and preselfrep ≤2	Wilcoxon	27			p= 0.085 * ES: small				p= 0.006 ** ES: mod		
Preselfrep > postselfrep	t-test	7									p= 0.002 ** ES: large
Preselfrep ≤1	t-test	6					p= 0.012 ** ES: large				

## **16.6 Analysis and Discussion of Project #3 Results**

### **16.6.1 Entire Dataset**

Given the heterogeneity of the dataset, it is unsurprising that analysis of the dataset as a whole does not reveal any statistically significant differences between pre- and post-workshop scores.

Although a 'magic bullet' is plainly absent, the fact that 'persistence' (PER factor) comes close to significance supports my anecdotal experience that workshop participants frequently report a preparedness to work harder and smarter to glean information or a referral to be one of their key 'takeaways'.

Looking at the set of analyses, it is gratifying that eight of the nine factors investigated yield a statistically significant result at a moderate or large effect size in at least one of the data subsets.

The fact that 'clarity of purpose' (factor PUR) only approaches significance in one analysis confirms doubts about the coherence of this factor which are elucidated in the next chapter.

### **16.6.2 Open Workshops Only**

Those attending an 'open' workshop have signed up to it – and probably paid for it with their own or their organisation's money- to either redress a perceived issue with their networking efficacy or to enhance existing skills.

This dynamic contrasts with that of the business school or university student for whom the workshop has been provided as simply another class to be attended, whether elective or mandatory, and I suspected from the outset that this dichotomy might be visible in the data.

In the event, the economic recession reduced to a rump the number of open workshops held during the data collection window, but the significant result for 'altruism' (factor ALT) justifies the thinking documented in section 14.1 of Project #2 and the decision not to drop this factor.

### **16.6.3 Age Effects**

Anecdotal experience suggested that there might be age-related differences in the way that participants made and maintained connections. Aside from the obvious consideration of technology use, I suspected there might be other differences in the way that network interactions were managed.

The ten year age banding chosen is clearly arbitrary but seeks to capture in 'broad brush' fashion a reflection of the various life and career stages of workshop participants.

For those under age 30, a key learning point is recognition of the value of Granovetter's 'weak ties' and the associated importance of maintaining contact over the long term (factor MAI). A possible explanation for the significance of this factor with this group is that being at an early stage in their working life, they have not yet previously even thought to address the issue.

In the 30-39 year age group, the most significant change facilitated by workshop seems to have been in relation to the importance of effective contact management (factor CMA). While not demonstrably causal, this equates to the anecdotal experience that those in mid career often do not recognise the true value of a good contact management system as a career management tool.

In the 50+ age group, it is the ability to be seen to recall information about contacts which strikes the loudest chord. This may in part be due to the reminder of the potential beneficial benefits of paying such a psychological compliment to a contact, but may also reflect the fact that this age group is beginning to value the useful tips and tricks we typically provide to facilitate recall. A ten year longitudinal study of over 7,000 Whitehall civil servants reported in the British Medical Journal in 2012 found that "average performance in all cognitive domains, except vocabulary, declined over follow-up in all age groups, even in those aged 45-49." (Singh-Manoux et al., 2012)

### **16.6.4 Sex Effects**

Without stereotyping, there is anecdotal evidence that men and women network in different ways and I was interested to know whether this would be reflected in what each sex saw as the main 'takeaway' from

the workshop. Males outnumber females approximately 2:1 in the Project #3 dataset, but both sample sizes are large enough for comparison.

For women, contact management (factor CMA) emerged as the significant element. This was a surprise finding given that anecdotally, women seem much better at managing their contacts than men. Perhaps the key is the insight gained by women during a typical workshop into the way in which new technologies which they have previously eschewed can simplify contact management.

For men, there was no one factor that emerged to give coherence.

### **16.6.5 Self-reported Networking Efficacy**

Anecdotally, I have encountered a number of people who profess themselves to be poor networkers, but in doing so confuse this with introversion. Concerns for the accuracy of self-reporting are discussed at section 12.2.3, but I was interested to discover whether the reported benefits of the workshop differed according to participants' self-perception.

I examined this from a number of viewpoints including disaggregating the sexes in the light of the findings in section 16.6.4 above.

For those who reported an increase in their self-perceived networking ability (as measured by a difference of at least one Likert-type scale unit between pre- and post-workshop scores), it comes as gratifying and no surprise that the source of the biggest changes are recognition of the need to engage with others (factor ENG) and the counter-intuitive but powerful learning that being prepared to seek help from others (factor HLP) can be a key factor in expanding your own effective network.

I was intrigued to discover whether there might be beneficial aspects to the workshops even in the absence of any self-reported improvement, given that the jump from (say) 'poor' to 'average' might be something that would need time and experience to elicit in some people.

With that in mind, I ran an analysis only on those who had decided that they were 'below average or worse at the outset (on the basis that they must have had one or more specific reasons or episodes in mind to inform that selection) but who either declared no self-perceived improvement or perhaps even declared a reduction in efficacy for the reason given in section 16.3.3. Given the sex differences seen above, I ran a similar analysis selecting also for sex.

It does not surprise me that the key 'takeaway' message for this group is factor PER- the importance of persistence given that one of the overarching anecdotal issues faced by poor networkers is the apparent lack of action in the face of an unreturned phone call or email. The pre-workshop assumption seems to be that if a contact fails to respond to a request, then they are simply not interested: the understanding that people are busy, that things get forgotten and emails get buried is obvious to most of us but an apparent insight to this group who interpret it instead as disinterest.

An interesting finding is that when sexes are disaggregated, the PER factor is only significant for males, explained perhaps by the fact that men have a greater tendency to more readily interpret lack of response as rejection, as signalled by Ratcliff (2013):

"Relatedly, men tend to be more competitive than women (Buss, 2004; Maccoby, 1998). Maccoby (2002) argues that, from a very young age, boys' playtime interaction tends to be marked by dominance-striving. Competition within social groups is a way for boys to "prove their worth." Young girls also pursue individual goals within social groups, but tend to do so while simultaneously striving to maintain group harmony...A similar argument is that self-esteem might be impacted when one fails to fulfill the roles ascribed to one's gender. For men, this includes being independent, autonomous, and better than others (Josephs, Markus, & Tafarodi, 1992)."

Knowing the bullish but sometimes misplaced self-confidence of the MBA student, I also wanted to know whether the workshop had perceived benefit for those who self-reported themselves initially to be 'above average' or 'well above average' with respect to their peers. After all, someone recording the maximum Likert-type scale value of 5 on the pre-workshop questionnaire has nowhere higher to go and no way to record a self-perceived improvement.

Accordingly, I ran an equivalent analysis on all those who scored 4 and above initially but who either declared no self-perceived improvement or even a drop in self-perception. Once again, I also ran a sex specific variant.

Although none of the results for this group are significant at the  $p < 0.05$  level, this analysis produces results approaching significance for three of the nine factors investigated- more than any other group. I can offer two possible explanations for this. The first is that of 'confirmation bias': this group understands the messages being offered in the workshop, and it confirms or reinforces their existing view of how the world operates. That being the case, their post-workshop scores reflect an increased enthusiasm for the task even though they may not self-report an improvement.

A second explanation is that this group is well attuned to the workshop messages, but that the workshop actually offers fresh insights into ways that these participants can improve a game that they are already playing at a high level. So while self-reported efficacy does not improve, participants do record an improvement in individual facets of their performance.

I note also that this effect seems to evaporate when disaggregating sex, leading me to query whether there was some other mechanism in play here- perhaps a cluster of cases from a particularly well-received workshop or shared cultural values, so I reviewed the base data for the 16 cases in this group but found no identifiable pattern: they are spread across workshops and between presenters.

Aware that there were those who might have approached the self-report in the same manner as described in section 16.3.3, discovering that they were perhaps not as good as they had first thought, or more likely that we had introduced them to new concepts or suggestions that they had not previously considered, it turns out that 7 of the 100 cases actually reported themselves to be worse after the workshop than before. The telling point here is the significant result achieved for factor RCL, appreciation of the importance of the psychological compliment you pay someone by being able to recall and replay personal information back to them at a subsequent meeting.

I was interested too in those who had been referred by recruitment consultants and/or who had extremely low pre-workshop self-reported networking ability, given that the route of their referral suggested a career-

limiting issue in need of remedy. The results show that this was the only group for which factor LOC (locus of control) reached significance, indicating a realisation (which I attribute to workshop messages) of the extent to which they are (or should be) much more in control of their own network of contacts than they had been pre-workshop.

I should stress here that the term 'locus of control' was selected for this factor not as being defined by the personality trait of the same name, but simply to capture the mindset which sees connections and events as being dictated more by outside influences than by one's own actions. This may well prove to be mappable to the personality trait, but no such claim is being made here.

### **16.7 Missing Data**

Although I have already shown that overall completion rate of 25% in this project was broadly in line with those achieved by others, I remained concerned about the academic defensibility of my work in the face of this missing 75%.

What if those whose failure to respond to the post-workshop survey signalled that the participant had found the whole experience a waste of time, and chose out of politeness or disinterest simply to ignore my survey request rather than actively voice their rejection of our messages? Clearly, if that were so, the data collected would have to be analysed in a very different light.

I am satisfied that the immediate post-workshop record provided by our own 'happy sheets' and/or the universities' own feedback mechanisms suggests this is not the case, but I wanted to provide the strongest possible support for the accuracy of my data collection and analysis.

Accordingly, I sent 180 emails in March 2013 to all those who had completed the pre-workshop survey but not the one month post-workshop follow-up, with the following wording:

Dear Colleague,

My doctoral research into networking is pretty much complete, the results are in and the analysis is done. The one thing I'd like to get a handle on is the 'missing data', so I'm contacting all those

who completed a pre-workshop questionnaire before a session by Judith or myself, but not the follow-up a month later.

So no SurveyMonkey links this time, and nothing remotely time consuming- just a very quick and dirty request to bat me back a very quick email by return 'cutting and pasting' one of the reasons below why you completed the pre-workshop survey but not the matching post-workshop one that would have allowed a comparison.

I won't contact you again on the matter after this email, and please be assured all results are confidential and anonymous:

- a...didn't have time/too busy
- b...forgot
- c...not interested in helping research
- d...workshop/masterclass not useful
- e....didn't attend workshop/masterclass
- f...don't remember getting post-workshop survey email
- g...other- feel free to specify!

Thanks in advance for your time.

Tony

The responses are tabulated below, and while the result is recursive in the sense that there remains an 87% non-response rate, the preponderance of 'didn't have time/forgot/didn't see email' responses indicates the sentiment. It is possible that those who ' don't remember getting post-workshop survey email' never received it, but as this email went to the same address as the previous ones, and a 'bounce' wasn't recorded by my system, it is more likely that the email was just missed, passed over or fell foul of a 'spam' filter.

**Table 28: Responses within one week to 'missing data' email**

Total no. emails sent 2 March 2013	180
Total no. responses to email	24
percentage of 2nd survey non-responders	13%
percentage of total attendees	6%
Didn't have time/too busy	10
Forgot	3
Not interested in helping research	0
Workshop/masterclass not useful	0
Didn't attend workshop/masterclass	4
Don't remember getting post-workshop survey email	7
Other- feel free to specify!	0

Further support comes from the different completion rates between open and closed workshops (67% vs. 27%), suggesting a greater preparedness to invest time in responding to those who have actively self-selected to attend compared with those whose attention is on the next class, module, assignment or exam as soon as the workshop has been delivered.

## **16.8 An Unexpected Control Group**

A concern of mine throughout this research has been the lack of my ability to demonstrate causality using an 'AB' design study with no control. In defence, I would point to the variety of venues, date range, mix of facilitators and heterogeneity of participants as all mitigating against some other unidentified causal factor.

A credible control remained an aspiration throughout, but the response rates from participants shows just how difficult it would have been to create a matched control group from busy non-participants.

Having abandoned any attempt at a control, an administrative mistake made by a client business school which could easily have gone unremarked yielded a moment of insight. French business school HEC had scheduled a networking skills workshop for a large MBA cohort, and my pre-workshop questionnaire link was emailed to all potential participants. In the event, only about half of the expected number attended the workshop, and it transpired later that this was because of a scheduling conflict which was not spotted by the administrative team until too late to rectify.

It occurred to me after delivery of the workshop that I had here a ready made control group, perfectly matched for size, age and experience and randomly assigned by the nature of the scheduling error.

At the same time as emailing the post-workshop questionnaire to all participants, I contacted all non-participants explaining how the administrative error had created a valuable opportunity to create a control group and inviting them to complete the same one month post-workshop questionnaire.

## **16.9 SPANOVA on Control Group**

The technique used to investigate the HEC control group was a split-plot ANOVA (SPANOVA), also known (and described in Pallant, op. cit. :266) as a 'mixed between-within subjects ANOVA'.

In this case, the 'within subjects' analysis relates to the time interval between pre- and post- workshop questionnaires, and the 'between subjects' to the participants and non-participant (control) group.

The dataset comprised 14 participants whose data was included within the main Project #3 dataset, and a control group of 28 non-participants. Appropriate elements are summarised in the following sections.

### **16.9.1 SPANOVA Assumptions**

Prior to running the SPANOVA analysis, the sample was checked for conformance with parametric tests.

### **16.9.2 Assumption of Normal Distribution**

As total sample size was 42, normal distribution was assumed in line with Pallant's recommendation (op. cit. :204).

### **16.9.3 Assumption of Homogeneity of Inter-Correlations**

An additional assumption for SPANOVA is the homogeneity of inter-correlations. This is tested using Box's M statistic, output from which is shown below for each factor. Pallant (op. cit. :268) suggests that "because this statistic is very sensitive, a more conservative alpha level of 0.001 should be used."

The desired outcome is that the statistic is **not** significant (i.e.  $p > 0.001$ ), meaning that the assumption of homogeneity of inter-correlations is valid.

	n	Altruism (ALT)	Contact Management (CMA)	Ease of Engagement (ENG)	Openness to Help (HLP)	Locus of Control (LOC)	Maintaining Contact (MAI)	Persistence (PER)	Clarity of Purpose (PUR)	Recall Ability (RCL)
Box's M	42	0.038	0.076	0.001	0.251	0.000	0.006	0.008	0.219	0.020

**Table 29: Box's M statistic for Project #3 data**

In this case, all factors except LOC meet this requirement although ENG is marginal. Tabachnick and Fidell, quoted in Nimon (2012) report Box's test to be sensitive to unequal sample sizes, and as in this case the sample ratio was 2:1, I elected to maintain ENG rather than remove it.

#### 16.9.4 Assumption of Homogeneity of Variances

Levene's test for equality of variances is reported below for each of the eight remaining factors pre- and post- workshop:

	n	Altruism (ALT)	Contact Management (CMA)	Ease of Engagement (ENG)	Openness to Help (HLP)	Maintaining Contact (MAI)	Persistence (PER)	Clarity of Purpose (PUR)	Recall Ability (RCL)
Pre-workshop	42	0.943	0.798	0.463	0.525	0.583	0.763	0.775	0.636
Post-workshop	42	0.530	0.396	0.328	0.965	0.471	0.789	0.663	0.537

**Table 30: Levene's test of equality of error variances for Project #3 data**

In all cases, the value for each variable is  $>0.05$ , indicating no significance and thus homogeneity of variances.

### 16.9.5 Interaction Effect

Wilks' Lambda is used to test for Interaction effects between the two groups, and is reported below:

	n	Altruism (ALT)	Contact Management (CMA)	Ease of Engagement (ENG)	Openness to Help (HLP)	Maintaining Contact (MAI)	Persistence (PER)	Clarity of Purpose (PUR)	Recall Ability (RCL)
	42	0.777	0.939	0.981	0.726	0.821	0.972	0.466	0.694

**Table 31: Wilks' Lambda test for interaction effects for Project #3 data**

In all cases, the value for each variable is  $>0.05$ , indicating no significance and thus no interaction effects.

### 16.9.6 Main Effects

Wilks' Lambda was examined for each of the eight remaining factors to examine whether there was a statistically significant effect across time.

	n	Altruism (ALT)	Contact Management (CMA)	Ease of Engagement (ENG)	Openness to Help (HLP)	Maintaining Contact (MAI)	Persistence (PER)	Clarity of Purpose (PUR)	Recall Ability (RCL)
Wilks' Lambda for factor	42	0.995	0.996	1.000	0.979	0.992	0.978	0.994	0.983
sig		0.671	0.703	0.981	0.363	0.565	0.345	0.637	0.407

**Table 32: Wilks' Lambda test for main within-subjects effects for Project #3 data**

None of these results reach significance ( $p < 0.05$ ), indicating no significant change between pre- and post-workshop scores for this group. This is not surprising given the small sample size (14 participants), and the more interesting aspect of this investigation is the between-subjects effects.

### 16.9.7 Between-Subjects Effects

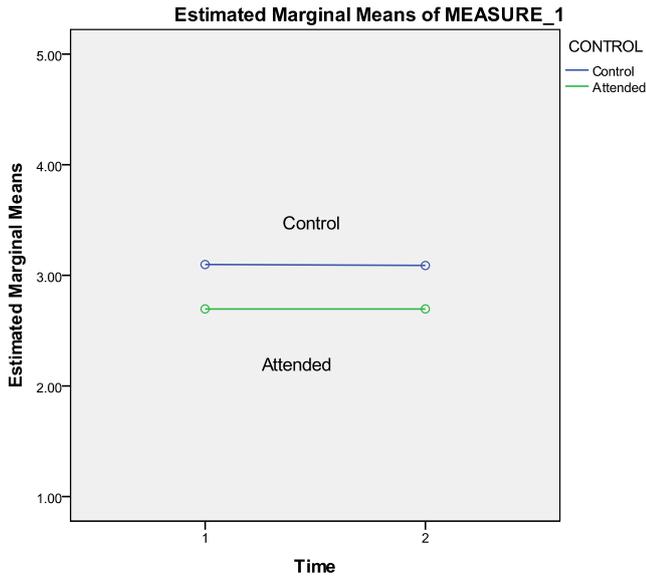
	n	Altruism (ALT)	Contact Management (CMA)	Ease of Engagement (ENG)	Openness to Help (HLP)	Maintaining Contact (MAI)	Persistence (PER)	Clarity of Purpose (PUR)	Recall Ability (RCL)
sig		0.655	0.685	0.023	0.907	0.163	0.562	0.966	0.428

**Table 33: Between-subjects effects for Project #3 data**

Only factor ENG (representing the preparedness to engage with strangers) reaches significance at the 0.05 level. The Partial Eta Squared value for this factor is 0.123, which represents a moderate effect size (as proposed by Cohen, 1988 op. cit.).

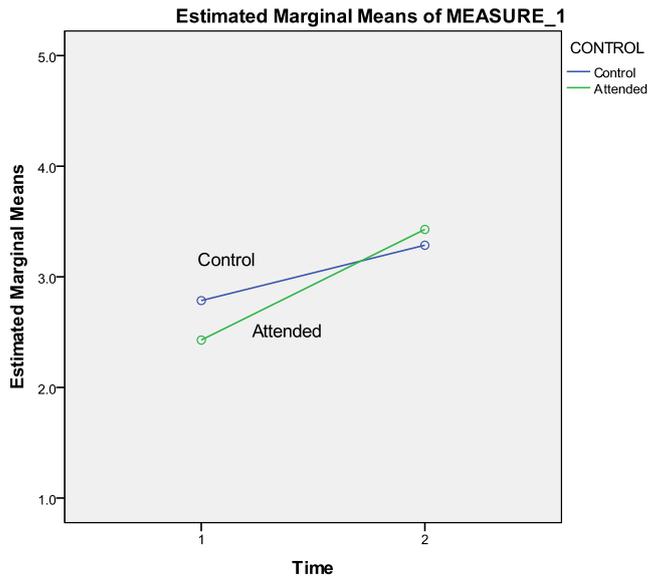
### 16.9.8 SPANOVA Discussion

The emergence of the ENG factor as the only one to show statistically significant difference between the participant and control groups turns out not to be the positive result it first appeared. The reason is illustrated by the means plot at Figure 21: SPANOVA Between-subjects means plot for ENG (Ease of Engagement) for Project # 3 data which shows that on the ENG factor, the control group scored higher than the participant group in both pre- and post- workshop surveys.



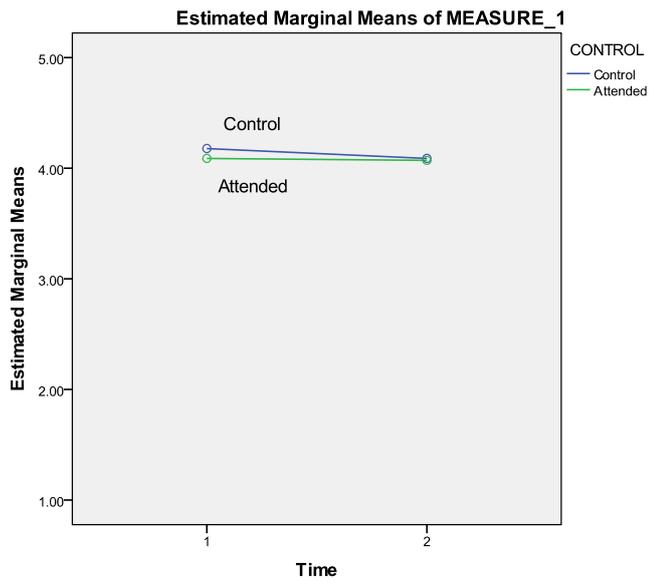
**Figure 21: SPANOVA Between-subjects means plot for ENG (Ease of Engagement) for Project # 3 data**

This effect pervades the ‘between-subjects’ results, as summary of which (total mean scores) is shown at Figure 22. Overall, the control group starts out with better scores, but by the one month post-workshop follow-up, attendees are scoring better.

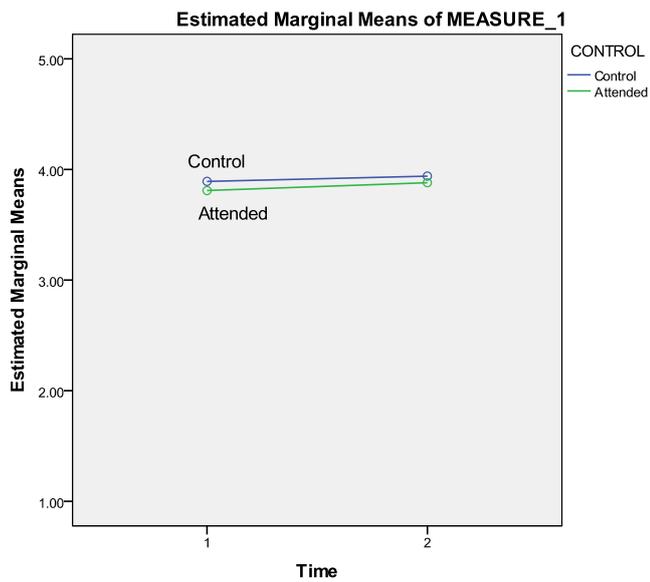


**Figure 22: SPANOVA Between Subjects means plot for total means for Project #3 data**

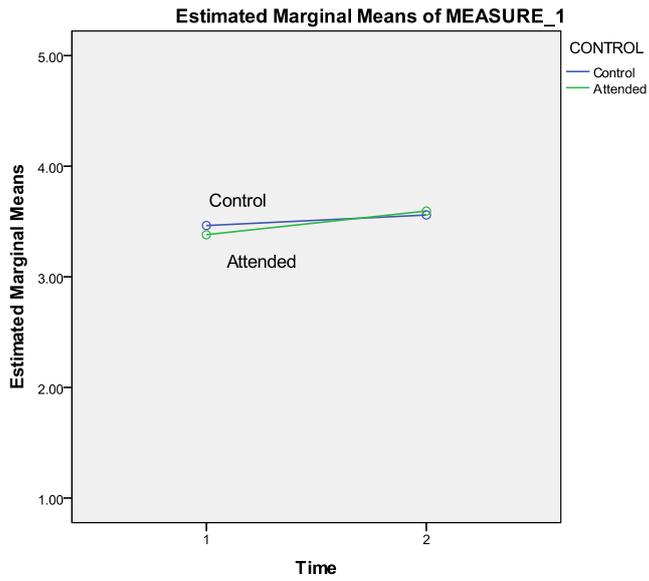
My explanation of this finding is that the very fact that 28 busy, non-participants elected to respond to my call for the creation of a control group suggests a greater preparedness to engage, be helpful and altruistic than the rest of the cohort. In short, the control group may have been selected randomly through administrative circumstance, but the respondents were to a certain extent self-selected. Additionally, it's likely that in my outreach to non-participants, I recruited some who failed to participate not because of the scheduling error, but because they already considered themselves to have the necessary skills. Evidence to support this notion comes from examination of the SPANOVA means plots for each group (excluding LOC which failed Box's Test), from which it can be seen that for all factors, the pre-workshop mean is higher for non-participants than participants.



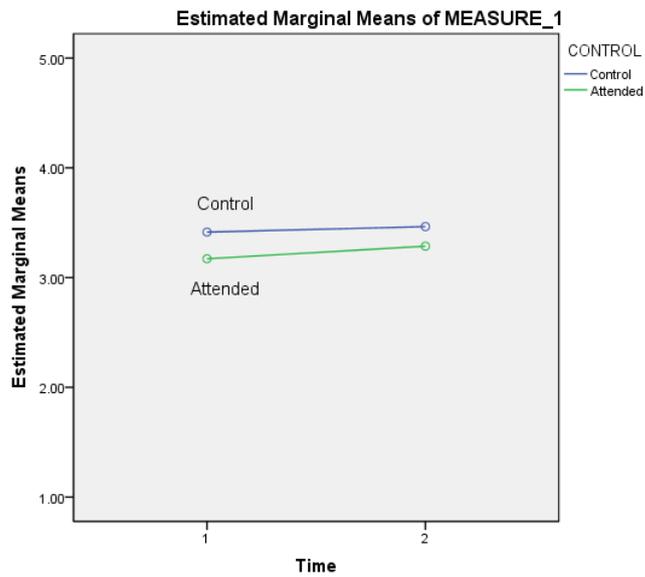
**Figure 23: SPANOVA Between-subjects means plot for ALT (Altruism) for Project # 3 data**



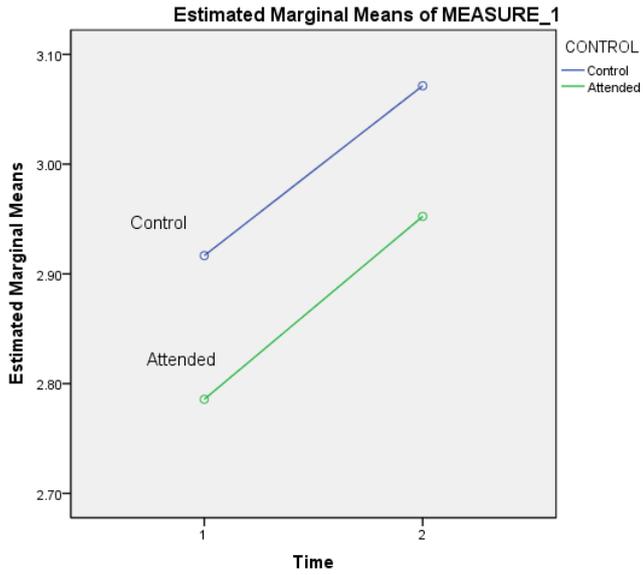
**Figure 24: SPANOVA Between-subjects means plot for CMA (Contact Management) for Project # 3 data**



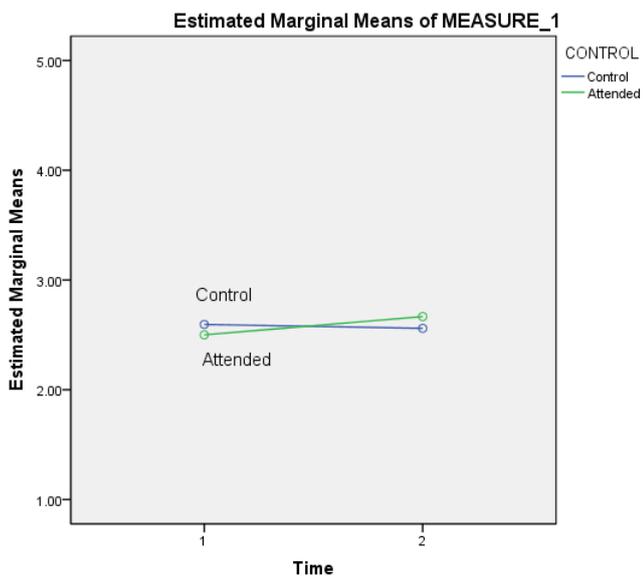
**Figure 25: SPANOVA Between Subjects means plot for HLP (Openness to Help) for Project # 3 data**



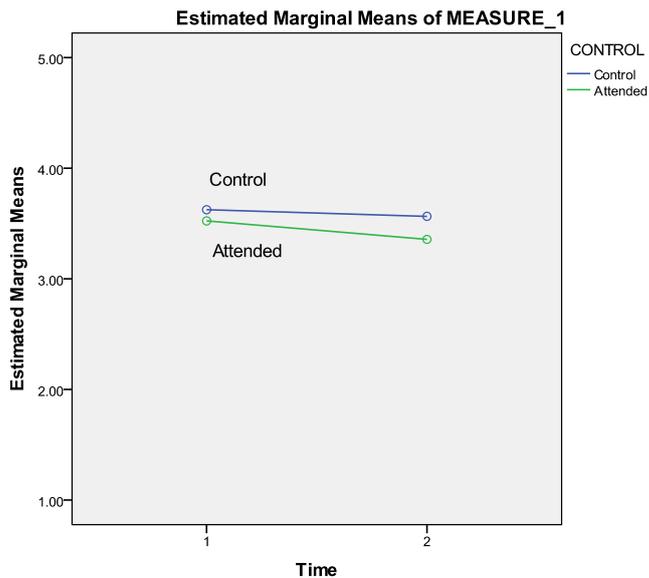
**Figure 26: SPANOVA Between Subjects means plot for MAI (Contact Maintenance) for Project # 3 data**



**Figure 27: SPANOVA Between Subjects means plot for PER (Persistence) for Project # 3 data**



**Figure 28: SPANOVA Between-subjects means plot for PUR (Clarity of Purpose) for Project # 3 data**



**Figure 29: SPANOVA Between-subjects means plot for RCL (Recall Ability) for Project # 3 data**

Another interesting phenomenon from the same plots is the fact that despite the lack of statistically significant interaction effects (as demonstrated in section 16.9.2 above), non-participants appear to show improvement between pre- and post- workshop scores. I attribute this fact to a halo effect between participants and non-participants: those who attended the workshop enjoyed and valued the experience (as evidenced from the formal feedback) and many of those who could not attend because of the scheduling problem were disappointed not to be able to do so. If the workshop created a networking ‘buzz’ in canteen or syndicate group, then it is unsurprising that those who could not attend might have derived some real benefit and perhaps access to workshop notes.

Despite the weaknesses of size and self-selection, I judge the control group exercise to have been worthwhile and I am pleased with the moment of insight that allowed me create it. The issue of a control group in future research is considered in the next chapter.

### 16.10 Project #3 Conclusions

Overall, the design of the Newton Networking Inventory and the methodology chosen has allowed Project #3 to deliver credible and defensible results. Experience during the project has highlighted methodological and structural issues which are addressed in the next chapter, as well as suggesting ways in which I can take this research in new directions.

One issue to highlight at this point is the lack of any significant result (or indeed any approaching significance) for the factor PUR, representing 'clarity of purpose', within any of the analyses performed. This is addressed in the next chapter.

It seems in summary that there is a 'dog whistle' effect in which particular groups latch on to themes which are important for their generation, life experience or career stage.

### **16.10.1 Project #3, Proposition 1 Reflections**

Proposition 1 proposed:

**...that there will be a statistically significant improvement between pre- and post-intervention scores on one or more of the nine Newton Networking Inventory factors.**

The analysis presented at section 16.5.4 shows significant pre- and post-workshop differences for seven of the nine Newton Networking Inventory factors. Accordingly, Proposition 1 is supported.

### **16.10.2 Project #3, Proposition 2 Reflections**

Proposition 2 proposed:

**...that if Proposition 1 is supported, different factors will assume significance within defined sub groups of a heterogeneous dataset.**

The analysis presented at section 16.5.4 confirms that age, sex and self-reported networking efficacy can all be shown to impact on the benefit derived by participants from networking workshops, and accordingly, Proposition 2 is supported.

### **16.10.3 Project #3, Proposition 3 Reflections:**

Proposition 3 proposed:

**...that if Proposition 1 is supported, a causal relationship can be demonstrated between a networking skills workshop intervention and this improvement.**

Indirect evidence to support this proposition comes from the fact that significant improvements between pre- and post- workshop scores were seen across venues, date range, mix of facilitators and heterogeneity of participants.

## CHAPTER SEVENTEN – IMPLICATIONS OF RESEARCH FINDINGS

### 17.1 Introduction

The material presented demonstrates that my research has largely achieved what it set out to do. What follows is my consideration as to how these results add to the existing literature and what practical implications they have for teaching practice.

### 17.2 Summary of Research Propositions and Findings

For ease of reference, I summarise here the propositions and findings from the three projects making up this report.

#### Project #1 Proposition:

**...that a questionnaire based on an amended version of the Mitchell, Levin and Krumboltz typology provides a satisfactory model of networking mindset and actions.**

This proposition was not borne out, and a revised typology was developed during Project #2.

#### Project #2, Proposition 1:

**...that revisions to the networking inventory developed in Project #1 will result in a typology and an inventory suitable for operational use.**

As reported in chapter 11, the nine factor solution carried through from project #1, and the model suggested by EFA has been confirmed by the various 'model fit' indices calculated during CFA.

Scales MAI, PER, HLP, RCL and ENG all exceed the accepted 'minimum' Cronbach alpha of 0.7. This is gratifying in light of how difficult it can be to reach acceptable alphas with scales of less than 10 items.

The remaining CMA, LOC, ALT and PUR scales all meet the Briggs & Cheek (op. cit.) 'optimal range' for inter-item correlation, suggested as an alternative reporting form for short scales.

Scale length is now satisfactory, with at least three items per scale, and at 34 questions (with additional questions to collect personal data), the inventory is now at a length acceptable for use in the workshop environment or for completion online without introducing method effects arising from time to complete the inventory.

Accordingly, I conclude that Project #2, Proposition 1 is supported.

Project #2, Proposition 2:

**...that the revised inventory will be able to discriminate between effective and ineffective networkers.**

Seven of the nine factors proposed have been shown to be capable of discriminating at significant level between effective and less-effective networkers. For six of these factors, the effect size is large or medium. Accordingly, I conclude that Project #2, Proposition 2 is supported.

Project #3, Proposition 1:

**...that there will be a statistically significant improvement between pre- and post-intervention scores on one or more of the nine Newton Networking Inventory factors.**

The analysis presented at section 16.5.4 shows significant pre- and post-workshop differences for seven of the nine Newton Networking Inventory factors. Accordingly, Project #3, Proposition 1 is supported.

Project #3, Proposition 2:

**...that if proposition 1 is supported, different factors will assume significance within defined sub groups of a heterogeneous dataset.**

The analysis presented at section 16.5.4 confirms that age, sex and self-reported networking efficacy can all be shown to impact on the benefit derived by participants from networking workshops, and accordingly, Project #3, Proposition 2 is supported.

Project #3, Proposition 3:

**...that if proposition 1 is supported, a causal relationship can be demonstrated between a networking skills workshop intervention and this improvement.**

Indirect evidence to support this proposition comes from the fact that significant improvements between pre- and post- workshop scores were seen across venues, date range, mix of facilitators and heterogeneity of participants. Accordingly, project #3, Proposition 3 is supported.

### **17.3 The Nine Factors of the Newton Networking Inventory**

I originally named the questionnaire the 'Newton Networking Inventory' as a device to encourage outplacement agents, recruiters and their clients to treat it as a serious diagnostic tool rather than a 'work in progress'. For ease of reference in subsequent sections, I list here the nine factors derived from my research:

Altruism (ALT): the preparedness to do something with no guarantee of accruing a benefit

Contact Management (CMA): comprehensive and disciplined recording of contact data

Engagement (ENG): preparedness to engage with strangers

Openness to Help (HLP): preparedness to ask for information and referrals

Locus of Control (LOC): appreciation of the extent to which you personally can create networking opportunities

Contact Maintenance (MAI): extent to which one remains connected to past acquaintances

Persistence (PER): preparedness to persist in the absence of the desired outcome

Clarity of Purpose (PUR): extent to which one plans the desired outcome of a meeting

Recall Ability (RCL): ability to recall personal details from prior meetings

## **17.4 Validation of Workshop Content and Format**

From a personal perspective, the principal outcome of this research is the validation that it gives to both the content of our networking skills workshop and to the format in which we have taught it.

The direct linkage between workshop content and research outcome is provided by the fact that:

1. the questions used to create the Newton Networking Inventory were derived directly from the material taught;
2. those questions were validated by a cohort of highly effective networkers;
3. the scales developed from those questions proved capable of discriminating between highly effective networkers and others.

The linkage between the format in which the workshop is presented and the research outcome is supported by the workshop's efficacy in communicating concepts and demonstrably improving participants' questionnaire responses at one month post-workshop follow-up.

I made the point at section 1.1 that our workshops only addressed the first three of the four steps of Skinner's reinforcement theory (op. cit.). This research supplies the final step which is to 'determine the effectiveness of the programme by systematically assessing behavioural change.' One might argue that a one-month follow-up supplies only an indication of intent, rather than evidence of actual behavioural change, but I make this claim on the basis that 16 of the 34 inventory questions inquire specifically about actions, not intentions.

## **17.5 Validation of Teaching Practice**

As described in section 2.5.1, one of the tangential benefits to undertaking the DBA was the opportunity to undertake training leading to Fellowship of the Higher Education Academy. The 'deliverables' for this were an assignment looking reflectively at one's own teaching and reflexively at ways in which it could be improved, and a second considering variation in learning style among a taught cohort.

Given that it is quite possible for content and format to be good and yet for learning not to happen due to a failure in teaching style, the outcome of Project #3 reassures me that learning did in fact take place (as measured one month post-workshop) and that my teaching style (and that of my partner) was effective.

## **17.6 Contribution to the Academic Literature**

Just as my research is informed by multiple disciplines, so I believe that the research outcome impacts a number of literature strands.

### **17.6.1 Interpersonal Skills Literature**

As recently as 2007, the extant view of networking skills was such as to warrant this admonition from Ibarra and Hunter (op. cit., section 1.2) in the Harvard Business Review:

“...networking is not a talent; nor does it require a gregarious, extroverted personality. It is a skill, one that takes practice.”

So there is by no means a universal appreciation that networking skills can be taught effectively (or at all), and my own contribution to the literature is the demonstration that networking skills can indeed be imparted through a well-designed workshop intervention.

While stressing the importance of networking for career development, and compartmentalising networking activity into ‘operational, personal and strategic’, it is noteworthy that Ibarra & Hunter do not go on to specify exactly what skills this ‘networking’ entails or how to acquire it- they say ‘what’ and ‘why’, but not ‘how’. While the self-help and professional literature abounds with advice on ‘how to network’, I have not found anything in which this advice is supported by academically rigorous research.

Ibarra & Hunter’s comment that an “extroverted personality” is not needed addresses the perception I have encountered time and again that an outgoing, gregarious personality is a prerequisite for the effective networker. My research supports this contention by uncoupling personality from the mindset and actions of the effective networker, and provides my second and more substantial contribution to the literature, as argued below.

In devising a methodology to test the efficacy of our teaching, I also had to create an academically defensible survey tool. In doing so, I was initially disappointed to discover that the pool of questions I created did not support the amended Mitchell, Levin and Krumboltz (op. cit.) typology which I had taken as being a suitable model for effective networking. However, the ensuing factor analysis suggested an alternative nine factor solution which has proved resilient.

In section 4.1.2, I report that one outcome of my pilot study was the realisation that existing personality scales were unlikely to capture pre- and post-workshop changes in mindset or action. A specific example offered in the literature review and reprised here is Kashdan's 2004 (op. cit.) personality-focused Curiosity and Exploration Inventory (CEI) on which one item states "When I am actively interested in something, it takes a great deal to interrupt me." Clearly, a one-day workshop will not affect such an item, and yet curiosity about other people would seem intuitively to be an important part of the networking mix, and something worth asking about (directly or obliquely) in a networking scale.

An explanation of the relationship between my nine factor networking scale and personality is that an individual's personality may, for example, innately predispose them to being highly organised when it comes to recording comprehensive details about their contacts (factor CMA). A second individual, who is innately far less organised, discovers through our workshop that there is huge value and benefit to be derived from efficient, comprehensive contact management. This changes both their mindset about the importance of contact management, and their subsequent actions. This is in line with the description in section 2.3.1 of Ajzen's Theory of Planned Behavior (op. cit.), and the suggestion that what the workshop is doing is changing the 'subjective norm'.

The other effect of the workshop, reported anecdotally and through feedback sheets, is to instil confidence and self-belief in the value of the various factors expounded. This echoes Ajzen's (op. cit.) comment that:

"...people's behaviour is strongly influenced by their confidence in their ability to perform it. Self-efficacy beliefs can influence choice of activities, effort expended during performance, as well as thought patterns and emotional reactions."

I do not underestimate the role of personality in effective networking, but suggest that our workshop has a mediating effect. Support for this claim comes from the selective analysis of project #3 data, which shows different factors coming to the fore in different groups. To relate this back to the interpersonal skills literature, I highlight the differences between men and women reported in section 16.5.4.

For women, Project #3 results show ideas about contact management (CMA) to be the big 'take away' across the cohort. This may in part be due to an increased understanding of the importance of contact management, but research suggests that women remain more technophobic than men (Gilbert et al., 2003), a contention borne out by evidence from the Nielsen group dating from Q3 2010 (Hale, 2011) that in those aged over eighteen, "Women led most online purchase categories except music, auctions and computer hardware." My suggestion is that the workshop demonstrates to women how otherwise uninteresting technology can be harnessed to make networking less time consuming and more streamlined.

For men, there is no cross-cohort equivalent, but in those men who reported a post-workshop improvement in networking efficacy, the key 'take away' appears to be the importance and benefits of being prepared to ask for help (HLP). That this factor is not significant for women supports the contention of Lee (op. cit.) that:

"...because women are less likely to use power as a measure of self-worth and are less concerned about whether others view them as powerful or not, losing power is less costly for women than it is for men. Based on this reasoning, one would expect women to have lower power motivation than men and therefore seek help more than men."

Lee's paper, quoted more fully in section 2.2, also reviews some of the research into why men tend not to ask for help, concluding that:

"Help seeking also affects the help seeker's self-image. Individuals are motivated to maintain positive self-images, and as a consequence, we seek out information that confirms a positive sense of self and behave in ways that are consistent with this self-conception."

Another link to the literature arises from the small group of outplacement consultant referrals who came to me because of a problem perceived by the consultant with their networking performance during the job search. This is the only group for whom 'locus of control' (LOC) reaches significance. In retrospect, choice of the term LOC was unfortunate in that, while it might ultimately be found to map to the personality trait 'locus of control', it was intended only as a 'shorthand' to convey something that I have witnessed firsthand in practice and which is nicely summarised by Cabral and Salamone (op. cit.) who ask how it is that "one person may act on an unforeseen event, a second will not act and a third may not even realize that the event has happened." It is precisely this recognition of an opportunity (or lack of it) to which Mitchell, Krumboltz and Levin (op. cit.), Bandura (op. cit.) and Wiseman (op. cit.) all refer.

Consideration of the LOC factor highlights once again the place of personality within my research. A workshop participant referred to me because of a perceived deficiency in their networking skills may well score on personality tests as having a very high external locus of control which manifests as an assumption that it is others who provide opportunities for career development or job change. What the workshop provides is that 'aha!' moment in which they recognise that there are concrete actions they can take- and which others do as 'second nature'- that will help them. So the workshop provides a coping strategy rather than an underlying personality change.

Whether what starts out as a coping mechanism can translate into permanent change depends on whether you take the view of Costa (op. cit.) that "By the age of 30, our personality is set like plaster" or that of Srivastava (op. cit.) that personality can indeed change over time.

### **17.6.2 Testing 'Planned Happenstance' Theory**

I make the point in section 2.8 that although the 'Planned Happenstance' theory proposed by Mitchell, Levin and Krumboltz (op. cit.) seemed to embody the attributes of the 'effective' networker, this inductive typology had been cited, but not tested.

Project #1 tested this typology using questions derived from existing workshop content and discovered that the anticipated factors did not emerge from the factor analysis as expected. Instead, a different set of

nine factors emerged which persisted through Project #2. I consider this to be a research finding which may be worth submitting for publication in its own right.

### **17.6.3 Networking Scales**

As discussed in section 2.3.8, the reason that I did not choose to use a pre-existing networking inventory was that at the commencement of my research, I could not identify any one scale which appeared capable of capturing all the aspects of effective networking that my partner and I considered important. In addition, existing scales seemed unsatisfactory for cultural reasons or the fact they assume a rigid divide between 'work' and 'non-work' environments.

Bozionelos (op. cit.), writing in 2003 while trying to relate intra-organizational sources to career success and personality, noted that "... development of the [networking] instrument was deemed necessary due to the absence of appropriate in scope or validated scales."

The Newton Networking Inventory in the iteration used for Project #3 fills the gap described by Bozionelos. It offers a new, nine factor networking scale which has been tested both 'within subjects' and 'between subjects' and found generally fit for purpose. Clearly, improvements are possible but I believe the development of this inventory makes a genuine addition to the academic literature.

By avoiding mention of 'internal' and 'external' networking or 'work units' and by including items related to contact management and persistence, I believe my scale offers a more 'inclusive' approach than the 1993 Michael & Yukl scale (op. cit.) to those who are not in traditional/conventional forms of employment.

My scale is also less workplace oriented than the 2001 Forret and Dougherty 'Networking Behaviors Scale' (op. cit.), and differs in that I try to capture the networking 'mindset' rather than simply the 'actions' of networking. The same is true of Sturges' 'Career Management Scale' (Sturges et al., 2002) , in which networking is one of the four factors but is typified by the item "I have talked to senior management at company social gatherings".

Once again, it is the 'company' or 'organization' focus that sets my scale apart from the 2009 work of Wolff & Moser (op. cit.), and my desire to create a networking scale which recognises that there are many effective networkers in non-traditional roles whose abilities would simply not be captured by an organisationally oriented survey tool.

An interesting reflection is how my own scale, in which one factor (ENG) seeks to capture an individual's attitude to engaging with others maps to that of the 2008 work by Totterdell, in which the concept of 'Propensity to Connect with Others' (PCO) is introduced as "...three related but distinct components: making friendships, making acquaintances and joining others." While I agree that one can have many acquaintances but few friends, I contend that one has to make an acquaintance from which a friendship can emerge, so that this is a serial rather than parallel activity. From a purely networking perspective, the work of Granovetter (op. cit.) and 'the strength of weak ties' suggest to me that my ENG factor remains valid.

#### **17.6.4 Pedagogical Literature**

I asserted in section 2.5 that:

If this research can demonstrate a change in mindset or actions after delivery of a one-day workshop, then not only does that validate the format of the intervention itself, but potentially offers a contribution to the literature through content analysis of what will then be a proven pedagogic tool against the typology offered by Riding & Douglas (op. cit.).

Riding and Staley (op. cit.) researched the presentational preferences of business studies students on the 'analytic-wholist' and 'verbaliser-imager' axes, and I consider that an addition to the pedagogical literature would now be to disaggregate the workshop content (video, audio, imagery, roleplays, exercises, anecdote etc.) and consider how each of these appealed to the four subgroups in the typology.

In electing to use an 'AB' design with no control, and a one month follow-up, I cited the precedent offered by the work of Ajuwon & Kass (op. cit.) in medical ethics training, and that of Fallowfield (op. cit.) demonstrating that communications skills were retained at three month follow-up. What my research

provides, if and when it appears in the peer review literature, is added precedent for both an uncontrolled 'AB' design and for use of a one month follow-up in interpersonal skills training.

### **17.6.5 Contribution to Professional Literature**

By 'professional' literature, I refer to the myriad of non-peer reviewed books, magazines and blogs that seek to educate and inform. While they may not have the academic respectability of the peer-reviewed journal, such outlets are much more accessible and attract a wider readership.

While 'networking' as a topic is a perennial staple within business titles across several disciplines and sectors, most of what is written remains anecdotal. The addition of quantitative, academically rigorous research into how the mindset and actions of highly effective networkers differ from others should gain editorial approval, especially if following on, and adapted from, publication in a peer-review journal.

### **17.6.6 Contribution to Training Evaluation Literature**

While the research demonstrates a quantifiable effect on participants' questionnaire responses, it would be too much of a leap to make any claim for training 'value' as addressed in section 2.7. The fact that many participants record a self-reported increase in networking efficacy one month post-workshop might support a claim for 'self-perceived value', but this is very different from being able to make a claim for value in terms of monetary reward, career enhancement, job performance or connectedness.

What it may do, however, is to provide a platform on which to build such a claim using additional tools in appropriate environments. What the research shows is that the workshop has the content, format and delivery to equip participants effectively with the mindset and actions which enable them to network effectively. How this is manifested and recorded depends on context, but one suggestion for an Organisational Network Analysis approach is discussed in the next chapter.

## **17.7 Commercial Possibilities**

I would not claim to be able to demonstrate 'value' directly with my chosen research methodology, but I can demonstrate efficacy of the intervention. This is a potentially powerful sales tool for use in approaching new clients and tells a compelling story when coupled with the data from the workshop

feedback meta-analysis from over 3,500 participants presented at Appendix A: Meta-analysis of Networking Workshop Feedback 2001-2013.

Interest from colleagues in the recruitment industry in the progress of this research has been genuine rather than polite, so it is possible that the inventory will find its way into the toolbox of HR professionals. I retain copyright of the inventory, and there may be interest from the HR and talent management community in using the inventory linked to my networking workshop.

## **CHAPTER EIGHTEEN – REFLECTION AND FUTURE RESEARCH DIRECTION**

### **18.1 Reflection on the Durham DBA Process**

The Durham DBA as I have undertaken it comprised a two year taught phase followed by a research phase in which three discretely reported but linked projects were delivered to my doctoral supervisor at approximately one year intervals.

At numerous times during the research phase, I had to remind myself that the DBA is part of the academic training pathway, and that if I knew all the answers at the outset I would have had little need to undertake the degree. The old adage that ‘you don’t know what you don’t know’ came back to haunt me several times and led me to explore a number of blind alleys which, with the benefit of hindsight, were obvious.

While the two year taught phase certainly expanded my mental horizons and helped me frame my intended research both within the academic literature and the practical world in which it would have to be carried out , there were some aspects of the research phase, described below, for which I could have been better prepared.

The ‘three project’ format at first seemed artificial and overly prescriptive, but the time, thinking and reporting discipline it imposed helped me break down the proposed work into manageable and deliverable chunks.

The fact of being a part-time doctoral researcher at Durham has opened other doors which I could not have anticipated, including:

- Being invited to create and teach a three day negotiation skills elective module on the full and part time MBA
- Entering, and winning, the 2010 university-wide Durham academic research poster competition
- Participating in the Durham University Learning and Teaching Award, leading to Associate Fellowship of the Higher Education Academy

- Participating (from April 2013) in Module Two of the Postgraduate Certificate in Academic Practice
- Being invited to tutor on the distance-learning MBA 'Methods of Inquiry' module

My own teaching practice has certainly been informed and improved by the rigour of the research process, and much of what I have picked up from the academic literature has found its way back into my teaching and writing.

## **18.2 Reflection on Research Design, Methodology and Findings**

While the obstacles encountered and the ways round them are described chronologically within this report, there are some lessons which I will certainly take with me into future research, and into advice offered to students.

The first is the ease with which, as a novice researcher, I underestimated the complexity, time and data needed to create an academically defensible questionnaire. Data sources are of course dependent on research context, but I found myself at risk not only of running out of new subjects on which to trial questionnaire revisions, but also overtaxing goodwill from existing sources.

Second is the extent to which the novice researcher is expected to grasp new analytical tools: being exposed to factor analysis for the first time was daunting, and I have since discovered that Durham's standard 'MBA 'Methods of Inquiry' statistical text doesn't have an index entry for factor analysis. Additional confusion arose from the discovery that both exploratory and confirmatory factor analysis would be needed for my work, but that SPSS included only tools for EFA and that a different tool with different syntax (MPlus) would be needed for CFA.

The third is the extent to which planned research can be blown off course by extraneous factors beyond the researcher's control. In this case, the economic downturn reduced the number of workshops run, so prolonging the data collection phase, reducing the total dataset size and delaying thesis submission into another academic year.

### **18.3 Current Status of the Newton Networking Inventory and Suggestions for Improvement**

A key question to consider is whether the Newton Networking Inventory, as a deliverable from this research project, is fit enough for purpose to be exposed to the wider research and business community.

It clearly has discriminatory power, but it can be critiqued on two counts:

1. Some of the scales are short and/or suffer from a sub-optimal Cronbach alpha
2. The PUR scale does not even approach significance for any analysis carried out during Project #3

To address these issues would require a further round of iteration with my 'effective networker' group, and I consider that I am now far enough distanced in time from my earlier requests to make such an approach without overtaxing their goodwill. In fact, a communication detailing completion of my doctoral research might be just the hook upon which to hang such a request.

Earlier ambivalence about the value of retaining the ALT (altruism) and HLP (openness to help from others) factors was tempered by their useful showing in Project #3, but an increasing concern about the PUR factor (clarity of purpose) was reinforced by its lack of impact. This concern stems from a realisation which started to surface during Project #2 that the PUR factor was attempting to measure two antithetical elements- on the one hand, the benefit that 'clarity of purpose' can bring to getting the desired result from a meeting, while on the other, the preparedness to meet without a mental agenda just to see to what unexpected places an interesting conversation might lead.

What this implies is that to revisit the questionnaire design would mean expanding my pool of 'effective networkers' using a continuation of my 'snowball' sampling, plus a trawl for a new pool of LinkedIn contacts on which to test the revised questionnaire.

I continue to collect pre- and post- workshop survey data from workshop participants with the goal of expanding the dataset to the point at which I have a sample size of at least n=50 for each sub-group

identified, although there will be difficulty with extremes given for example the very small number who report themselves to be 'extremely poor' networkers.

The issue of an effective control group remains, but having now applied a SPANOVA analysis to the HEC control group as part of Project #3, I can see that it might be possible (but time consuming) to create a defensible control group from staff and postgraduate students from an unrelated university department and/or business.

#### **18.4 Future Research Direction**

Given that the networking workshop offered by myself and my business partner has now been shown to have a quantifiable effect on the mindset and actions of participants, it should be possible to run a workshop and map changes to a participant's or a cohort's network topology over time using network analytics tools such as the Organizational Risk Analyser to measure (for example):

'Degree centrality' - the number of direct connections a node has, indicating how likely a node is to receive what flows through the network;

'Betweenness centrality' - the number of times that connections must pass through a single node to be connected, indicating the extent that one person is a broker of indirect connections between all others in network. High scoring individuals can influence and control information flow (Merrill, op. cit.).

This idea was raised but discarded in section 1.4.4 of this research report, but if a suitable subject company could be identified with both a large enough employee base and a talent management function interested in research, then the idea has merit.

Thinking along similar lines, an approach to further validating the Newton Networking Inventory would be to identify an organisation which had already completed an Organisational Network Analysis, and invite participants to complete the inventory. Scores on the inventory could then be correlated against measures of network topology to see if more effective networkers as measured by the inventory are indeed better connected than others.

In section 2.3.4, I make the point that typical business school audiences are multinational and multicultural. Given the dangers of pooling different nationalities under a single 'culture', and the risk of ending up with very small sample sizes for some nationalities, it did not seem sensible to try to apply a cultural filter my results, but an interesting extension would be to apply the inventory in a number of different country-specific settings to see what commonalities and differences emerge.

## **18.5 Final Thoughts**

In compiling this research report, there have been many occasions in which I have found myself stuck down 'in the weeds', grappling with a difficult statistical analysis or methodological obstacle.

But as I come to the end of the process, I can look up again and remind myself that far from being simply the fulfilment of Durham's doctoral training requirements, the independent variable in this work is the networking skills workshop which my business partner and I created and have delivered to over 5,300 participants since 2001.

This research validates that teaching, and uses rigorous quantitative methods to show that we have provided demonstrable training benefit to participants. Just as important, it validates the career decisions made by my business partner and myself some thirteen years ago (triggered by mapping a network on a paper tablecloth in a Warsaw restaurant) that the apparently amorphous skill set that is networking could be successfully codified and taught.

## **APPENDIX A: META-ANALYSIS OF NETWORKING WORKSHOP FEEDBACK 2001-2013**

146 networking related workshops were analysed over the period 2001-2013 using two feedback forms variants, examples of which are attached. These half and one day workshops were held at business schools, corporates and 'not for profits' (in health, charities and the arts) as well as those open to all-comers with an appropriate background (promoted as 'open to those with middle and senior management experience').

The voluntary feedback form itself changed during this time from a 10 point numerical scale (10 being the highest rating to a five point text scale which it was felt better reflected the value that participants felt they had received. What did not change were the seven metrics on which participants were asked to rate the event:

### Content

- Presentation
- Usefulness
- Enjoyment
- Pace/Duration
- Interactivity/Q&A
- Overall

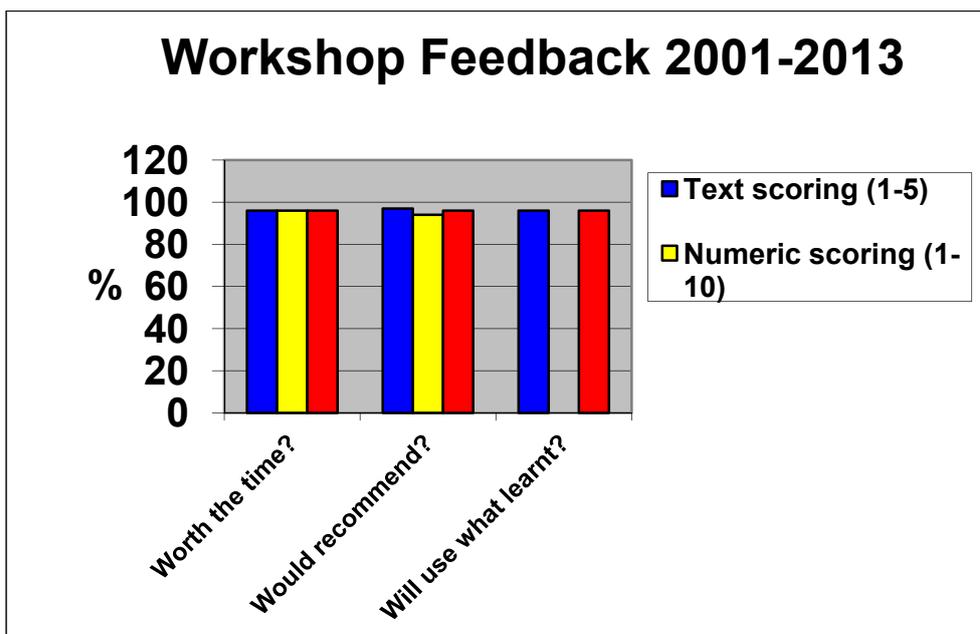
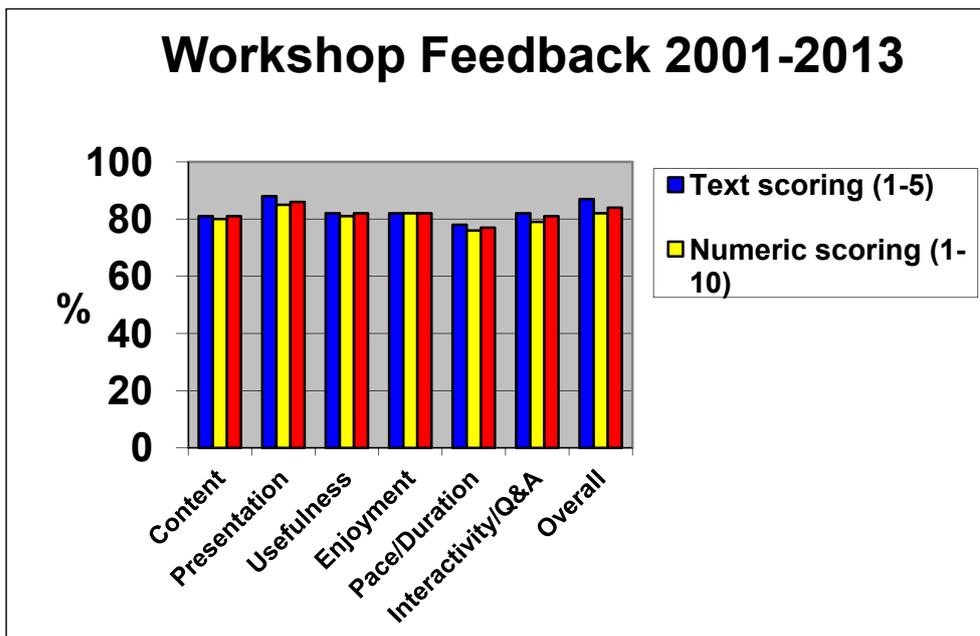
Or the two questions:

- Was the workshop worth the time spent on it?
- Would you recommend the workshop to a colleague?

In 2008, it was felt that the Likert-type scale 'Overall' category was not yielding useful information, so this was dropped in favour of the binary question:

- Do you think you will use what you've learnt?

The intention originally was to treat and analyse these two last questions as a binary outcome (yes=1, no=0), but it became apparent that some respondents were equivocal (e.g. 'yes, if tailored to my needs'), so we decided to score such responses as 0.5 if the adverse comment was minor. No attempt has been made within this meta-analysis to analyse changes to workshop feedback over time, the relative performances of different presenters offering very similar material or the variation in response from different audiences.



Potential flaws in the feedback mechanism include the following:

1. no feedback received from those who left workshops early either because of other commitments or because they felt they were not getting anything useful from content- so those who remained were 'self selecting'. Intuition is also that if people enjoyed the workshop, they were more likely to leave feedback than those who didn't (who would be more likely not to bother even to return a feedback form).
2. where workshops compulsory, the very fact of making the workshop compulsory is known to have created antagonism in those who felt they didn't need this training even prior to the event.
3. a number of workshops (@ 30) were left out of the analysis because the client's existing feedback mechanism could not be integrated into the main body of our data.
4. we are aware that external factors not related to the content could also affect the score- an overly hot room, open doors that allow in traffic noise, poor room set up and AV/IT issues have all been known to reduce overall scores.
5. changing to a five point scale (May 2006) forces respondents into a percentile score of 20, 40, 60, 80 or 100 %, rather than the 10 point increments offered by a numeric 1-10 scale. Meta-analysis reveals mean category scores using the five point scale to be a maximum of only 5% better than those with 10 point scale (76 workshops vs. 73) but this may also reflect an improvement in content and delivery over time.
6. Using a text rather than numeric scale may encourage respondents to rate higher- 'excellent' may be an easier score to award than 10/10 which suggests absolutely no flaws during the day on that metric.

**The key point made by this meta-analysis for the purpose of this paper, is that networking skills can demonstrably be taught in a manner which is well-received and valued by participants.**

MANAGEMENT ADVANTAGE WORKSHOP FEEDBACK FORMS

Six Degrees of Separation: The Art & Science of Effective Networking

WORKSHOP ASSESSMENT

Bradford Business School 14 June 2006

Your assessment of this workshop provides valuable feedback that will help us modify and improve future events. Please don't hesitate to use the back of the form for additional comments.

Please evaluate the course on the following elements, rating them from Poor to Excellent:

<b>Content</b>	Poor	Not very good	Adequate	Good	Excellent
<b>Presentation</b>	Poor	Not very good	Adequate	Good	Excellent
<b>Usefulness</b>	Poor	Not very good	Adequate	Good	Excellent
<b>Enjoyment</b>	Poor	Not very good	Adequate	Good	Excellent
<b>Pace/Duration</b>	Poor	Not very good	Adequate	Good	Excellent
<b>Interactivity</b>	Poor	Not very good	Adequate	Good	Excellent
<b>Overall</b>	Poor	Not very good	Adequate	Good	Excellent

Was the workshop worth the time you spent on it? Yes / No

Would you recommend the workshop to colleagues? Yes / No

What did you like most about the workshop?

How could we improve the workshop?

Thank you for completing this evaluation. It is useful to us even if anonymous, but if you would like to join the Management Advantage group on [LinkedIn](#), please give us your name and email address.

Name:

Email address (Please PRINT clearly):

**Six Degrees of Separation: The Art & Science of Effective Networking**

**WORKSHOP ASSESSMENT**

**Management Advantage**  
in association with **Russam GMS**  
May 2004

Your assessment of this workshop provides valuable feedback that will help us modify and improve future events. Please don't hesitate to use the back of the form for additional comments.

**Please evaluate the workshop in terms of the following elements, rating them from 1 (low/poor) to 10 (high/excellent):**

Content	1	2	3	4	5	6	7	8	9	10
Presentation	1	2	3	4	5	6	7	8	9	10
Usefulness	1	2	3	4	5	6	7	8	9	10
Enjoyment	1	2	3	4	5	6	7	8	9	10
Pace/Duration	1	2	3	4	5	6	7	8	9	10
Interactivity	1	2	3	4	5	6	7	8	9	10
Overall	1	2	3	4	5	6	7	8	9	10

**Was the workshop worth the time / money spent on it?** Yes No

**Would you recommend the workshop to colleagues?** Yes No

**What did you enjoy most about the workshop – and why?**

**How could we improve the workshop?**

**Do you know anybody else who might be interested in attending a similar workshop? If you do, please fill in their name and email address below (in block capitals, please):**

**Thank you for completing this evaluation.** It is useful to us even if anonymous. But please add your name and email address below (in BLOCK CAPITALS) if you are happy for us to contact you about other workshops, or items of networking-related interest.

Name:

Email address (Please PRINT clearly):

As our workshops are also networking events in their own right, we circulate a list of participants names and email addresses after the event. Please check the box if you do NOT want your details circulated.

## APPENDIX B: EXISTING PERSONALITY SCALES POOL FOR PROJECT #1 QUESTIONS

### Curiosity

Curiosity, Alpha = .78

(Peterson & Seligman, Values in Action – VIA, 2004)

- + keyed:
  - Find the world a very interesting place.
  - Am never bored.
  - Am always busy with something interesting.
  - Am excited by many different activities.
  - Can find something of interest in any situation.
  - Think that my life is extremely interesting.
  - Love to hear about other countries and cultures.
  
- keyed:
  - Am not all that curious about the world.
  - Find it difficult to entertain myself.
  - Have few interests.

Inquisitiveness, Alpha = .78

(Lee & Ashton, HEXACO Personality Inventory, 2004)

- + keyed:
  - Am interested in science.
  - Would love to explore strange places.
  - Enjoy intellectual games.
  - Love to read challenging material.
  - Find political discussions interesting.
  - Have a rich vocabulary.
  
- keyed:
  - Don't know much about history.
  - Avoid difficult reading material.
  - Don't bother worrying about political and social problems.
  - Will not probe deeply into a subject.

### Persistence

Industry/Perseverance/Persistence, Alpha = .81

(Peterson & Seligman, Values in Action – VIA, 2004)

- + keyed:
  - Don't quit a task before it is finished.
  - Am a goal-oriented person.
  - Finish things despite obstacles in the way.
  - Am a hard worker.
  - Don't get sidetracked when I work.
  
- keyed:
  - Don't finish what I start.
  - Give up easily.
  - Do not tend to stick with what I decide to do.

Omitted: Only get what I want because I work hard for it.  
Make certain that my plans will work.

## Flexibility

Flexibility, Alpha = .73  
(Lee & Ashton, HEXACO Personality Inventory, 2004)

+ keyed: Adjust easily.  
Am good at taking advice.

– keyed: When interacting with a group of people, am often bothered by at least one of them.  
React strongly to criticism.  
Get upset if others change the way that I have arranged things.  
Am hard to convince.  
Am annoyed by others' mistakes.  
Can't stand being contradicted.  
Am hard to satisfy.  
Am hard to reason with.

## Optimism

Hope/Optimism, Alpha = .73  
(Peterson & Seligman, Values in Action – VIA, 2004)

+ keyed: Look on the bright side.  
Can find the positive in what seems negative to others.  
Remain hopeful despite challenges.  
Will succeed with the goals I set for myself.  
Think about what is good in my life when I feel down.

– keyed: Expect the worst.  
Have no plan for my life five years from now.  
Am not confident that my way of doing things will work out for the best.

Optimism, Alpha = .80  
(Gough, California Psychological Inventory- CPI, 1996)

+ keyed: Am not easily bothered by things.  
Enjoy my work.  
Keep my cool.

– keyed: Feel desperate.  
Feel short-changed in life.  
See difficulties everywhere.  
Take offense easily.  
Habitually blow my chances.  
Fear for the worst.  
Get caught up in my problems.

Optimism, Alpha= .71  
(Cloninger et al, Temperament and Character Inventory- TCI, 1994)

- + keyed: Never give up hope.  
Love life.  
Work on improving myself.  
Keep improving myself.  
Know what I want.
- keyed: Feel that my life lacks direction.  
Am not sure where my life is going.  
Am resigned to my fate.  
Let others determine my choices.  
Agree to anything.

Optimism, Alpha= .86  
(Scheier et al, Personal Attributes Survey- PAS, 1994)

- + keyed: Just know that I will be a success.  
Feel comfortable with myself.  
Seldom feel blue.  
Look at the bright side of life.
- keyed: Have a dark outlook on the future.  
Feel that my life lacks direction.  
Dislike myself.  
Often feel blue.  
See difficulties everywhere.  
Am often in a bad mood.

## Risk Taking

Risk-taking, Alpha=.78  
(Jackson Personality Inventory - JPI-R, 1994)

- + keyed: Enjoy being reckless.  
Take risks.  
Seek danger.  
Know how to get around the rules.  
Am willing to try anything once.  
Seek adventure.
- keyed: Would never go hang-gliding or bungee-jumping.  
Would never make a high risk investment.  
Stick to the rules.  
Avoid dangerous situations.

## Adventurousness, Alpha=.70

(Jackson, Paunonen, & Tremblay, Six Factor Personality Questionnaire - 6FPQ, 2000)

- + keyed: Would like to live for awhile in a different country.  
Like to visit new places.  
Seek adventure.  
Try to do too difficult things.
- keyed: Dislike changes.  
Am attached to conventional ways.  
Dislike the unknown.  
Don't like to travel.  
Would never go hang-gliding or bungee-jumping.  
Am a creature of habit.

## Cautiousness, Alpha=.77

(Hofstede, de Raad, & Goldberg, Abridged Big Five-dimensional Circumplex model- AB5C, 1992)

- + keyed: Purchase only practical things.  
Tend to dislike impulsive people.  
Take precautions.  
[Never splurge.]  
[Never spend more than I can afford.]
- keyed: Do crazy things.  
Often make last-minute plans.  
Am easily talked into doing silly things.  
Laugh at the slightest provocation.  
Like to laugh out loud.  
[Like to act on a whim.]  
[Jump into things without thinking.]

## Diligence

### Organization, Alpha = .85

(Lee & Ashton, HEXACO Personality Inventory, 2004)

- + keyed: Keep things tidy.  
Get chores done right away.  
Like order.  
Like to tidy up.  
Want everything to be "just right."
- keyed: Leave a mess in my room.  
Leave my belongings around.  
Don't finish the things that I start.  
Often forget to put things back in their proper place.  
Am not bothered by disorder.

Diligence, Alpha = .81  
(Lee & Ashton, HEXACO Personality Inventory, 2004)

- + keyed: Push myself very hard to succeed.  
Get started quickly on doing a job.  
Am exacting in my work.  
Work hard.  
Complete tasks successfully.
- keyed: Do just enough work to get by.  
Stop when work becomes too difficult.  
Do too little work.  
Hang around doing nothing.  
Quickly lose interest in the tasks I start.

Perfectionism, Alpha = .80  
(Lee & Ashton, HEXACO Personality Inventory, 2004)

- + keyed: Pay attention to details.  
Continue until everything is perfect.  
Have an eye for detail.  
Want every detail taken care of.  
Dislike imperfect work.  
Want everything to add up perfectly.  
Detect mistakes.  
Demand quality.
- keyed: Pay too little attention to details.  
Prefer to just let things happen.

Planfulness, Alpha = .62  
(Gough, California Psychological Inventory- CPI, 1996)

- + keyed: Stick to my chosen path.  
Look at the facts.  
Follow through with my plans.  
Choose my words with care.  
Follow through on my commitments.
- keyed: Feel that my interests change quickly.  
Choose the easy way.  
Don't bother to make an effort.  
Come up with unworkable plans.  
Do not think about decisions.

Organization, Alpha=.79  
(Jackson Personality Inventory - JPI-R, 1994)

- + keyed: Get chores done right away.  
Make plans and stick to them.  
Follow a schedule.  
Want everything to be "just right."  
Like order.
- keyed: Often forget to put things back in their proper place.  
Waste my time.  
Leave my belongings around.  
Am not bothered by disorder.  
Put off unpleasant tasks.

Methodicalness, Alpha=.78  
(Jackson, Paunonen, & Tremblay, Six Factor Personality Questionnaire - 6FPQ, 2000)

- + keyed: Like order.  
Am exacting in my work.  
Am always prepared.  
Pay attention to details.  
Want everything to be "just right."
- keyed: Am not bothered by disorder.  
Make a mess of things.  
Leave things unfinished.  
Act without planning.  
Mess things up

Organization, Alpha=.78  
(Hofstede, de Raad, & Goldberg, Abridged Big Five-dimensional Circumplex model- AB5C, 1992)

- + keyed: Pay attention to details.  
Complete tasks successfully.  
Have an eye for detail.  
Demand quality.  
Set high standards for myself and others.  
Make well-considered decisions.  
Follow through on my commitments.  
Detect mistakes.  
Think ahead.
- keyed: Seldom notice details.  
Put little time and effort into my work.  
Don't pay attention.

Orderliness, Alpha=.78

(Hofstede, de Raad, & Goldberg, Abridged Big Five-dimensional Circumplex model-AB5C, 1992)

- + keyed:
  - Like order.
  - Follow a schedule.
  - Work according to a routine.
  - Like to tidy up.
  - Do things by the book.
  - Take good care of my belongings.
  - See that rules are observed.
  
- keyed:
  - Leave my belongings around.
  - Leave a mess in my room.
  - Dislike routine.

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## APPENDIX D: JOURNAL CITATION REPORTS ON *JOURNAL OF COUNSELING & DEVELOPMENT*

'Journal Impact Factor' is defined by Journal Citation Reports as "...a measure of the frequency with which the "average article" in a journal has been cited in a particular year" and is calculated to be:

$$\frac{\text{Cites in current year to articles published in prior two year}}{\text{Number of articles in prior two year period}}$$

This is published as an annual (calendar year) figure and is designed to give an indication of the degree of influence that journal has in its field. For *J Couns Dev*, this calculation for 2012 (most recent available at Oct 13) is 0.669:

ISI Web of Knowledge<sup>SM</sup>

Journal Citation Reports<sup>®</sup>

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**Journal Summary List** [Journal Title Changes](#)

Journals from: search JCR Abbreviated Journal Title for 'J COUNS DEV'

Sorted by: Journal Title

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Journals 1 - 1 (of 1) Page 1 of 1

Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title <i>(linked to journal information)</i>	ISSN	JCR Data <sup>i</sup>						Eigenfactor <sup>®</sup> Metrics <sup>j</sup>	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor <sup>®</sup> Score	Article Influence <sup>®</sup> Score
<input type="checkbox"/>	1	<a href="#">J COUNS DEV</a>	0748-9633	1159	0.669	0.773	0.067	60	>10.0	0.00103	0.217

Journals 1 - 1 (of 1) Page 1 of 1

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This figure means little in isolation until compared with the same ratio for other journals, and the table below, extracted from Journal Citation Reports, and exhibited for interest, displays the top ten journals by Impact Factor for all social sciences journals:

Journal Summary List

Journals from: All Journals

[Journal Title Changes](#)

Sorted by: Impact Factor

Journals 1 - 20 (of 3047)

Navigation icons: Home, Previous, Next, First, Last, etc.

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Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title <i>(linked to journal information)</i>	ISSN	JCR Data <sup>j</sup>						Eigenfactor <sup>®</sup> Metrics <sup>j</sup>	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor <sup>®</sup> Score	Article Influence <sup>®</sup> Score
<input type="checkbox"/>	1	<a href="#">BEHAV BRAIN SCI</a>	0140-525X	6402	18.571	23.173	2.286	14	>10.0	0.00996	10.969
<input type="checkbox"/>	2	<a href="#">TRENDS COGN SCI</a>	1364-6613	15717	16.008	16.845	4.056	54	7.3	0.04707	8.022
<input type="checkbox"/>	3	<a href="#">PSYCHOL BULL</a>	0033-2909	30814	15.575	19.676	2.316	38	>10.0	0.03238	9.087
<input type="checkbox"/>	4	<a href="#">ANNU REV PSYCHOL</a>	0066-4308	10635	15.265	26.624	4.818	22	9.5	0.02810	12.870
<input type="checkbox"/>	5	<a href="#">AM J PSYCHIAT</a>	0002-953X	42730	14.721	14.396	2.574	108	>10.0	0.06219	5.504
<input type="checkbox"/>	6	<a href="#">NAT CLIM CHANGE</a>	1758-678X	844	14.472	14.500	2.650	120	1.2	0.00441	7.010
<input type="checkbox"/>	7	<a href="#">ARCH GEN PSYCHIAT</a>	0003-990X	37412	13.772	14.466	2.488	125	>10.0	0.06130	5.625
<input type="checkbox"/>	8	<a href="#">ANNU REV CLIN PSYCHO</a>	1548-5943	2043	12.422	14.073	1.444	18	4.7	0.00962	5.738
<input type="checkbox"/>	9	<a href="#">PSYCHOL REV</a>	0033-295X	21374	9.797	11.342	1.222	36	>10.0	0.02133	6.137
<input type="checkbox"/>	10	<a href="#">WORLD PSYCHIATRY</a>	1723-8617	1193	8.974	6.413	2.429	21	5.0	0.00373	1.962

Clearly, it would be more appropriate to compare *J Couns Dev* to related journals in the same field, and Journal Citation Reports facilitates this by calculating and displaying ‘relatedness’ (as measured by citing connections) in which “...Journals at the top of the table are more likely to have a strong subject connection to the journal identified ...than journals at the bottom of the table.” This is shown below:

R <sub>max</sub>	Related journal (j)	Relatedness (R)	
		J COUNS DEV to j	j to J COUNS DEV
749.47	<a href="#">J COUNS DEV</a>	749.47	749.47
389.69	<a href="#">J MULTICULT COUNS D</a>	364.03	389.69
356.89	<a href="#">J COUNS PSYCHOL</a>	356.89	159.62
327.44	<a href="#">J EMPLOYMENT COUNS</a>	50.38	327.44
297.62	<a href="#">CAREER DEV Q</a>	152.95	297.62
293.90	<a href="#">J CAREER DEV</a>	47.59	293.90
255.32	<a href="#">COUNS PSYCHOL</a>	250.69	255.32
214.07	<a href="#">INT J EDUC VOCAT GUI</a>	98.83	214.07
200.47	<a href="#">AM PSYCHOL</a>	200.47	21.83
179.40	<a href="#">REHABIL COUNS BULL</a>	47.59	179.40

‘Impact Factor’ for each of these journals can now be looked up, creating the table below which shows *J Couns Dev* to be placed in mid field by this metric, ranking sixth out of the top ten related titles.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data <sup>i</sup>						Eigenfactor <sup>®</sup> Metrics <sup>i</sup>	
				2012 Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	2012 Items	Cited Half-life	Eigenfactor <sup>®</sup> Score	Article Influence <sup>®</sup> Score
<input checked="" type="checkbox"/>	1	<a href="#">AM PSYCHOL</a>	0003-066X	15449	5.100	7.700	1.766	47	>10.0	0.01419	3.534
<input checked="" type="checkbox"/>	2	<a href="#">J COUNS PSYCHOL</a>	0022-0167	4150	2.628	3.530	0.467	60	>10.0	0.00524	1.283
<input checked="" type="checkbox"/>	3	<a href="#">COUNS PSYCHOL</a>	0011-0000	1429	1.325	2.309	1.659	41	8.1	0.00242	0.790
<input checked="" type="checkbox"/>	4	<a href="#">CAREER DEV Q</a>	0889-4019	607	1.260	1.299	0.036	28	9.6	0.00093	0.398
<input checked="" type="checkbox"/>	5	<a href="#">J CAREER DEV</a>	0894-8453	390	1.118	1.564	0.037	27	6.5	0.00091	0.476
<input checked="" type="checkbox"/>	6	<a href="#">J COUNS DEV</a>	0748-9633	1159	0.669	0.773	0.067	60	>10.0	0.00103	0.217
<input checked="" type="checkbox"/>	7	<a href="#">REHABIL COUNS BULL</a>	0034-3552	335	0.523	0.658	0.500	18	>10.0	0.00040	0.200
<input checked="" type="checkbox"/>	8	<a href="#">INT J EDUC VOCAT GUI</a>	0251-2513	108	0.500		0.231	13	6.0	0.00030	
<input checked="" type="checkbox"/>	9	<a href="#">J MULTICULT COUNS D</a>	0883-8534	247	0.343	0.526	0.000	20	9.9	0.00032	0.190
<input checked="" type="checkbox"/>	10	<a href="#">J EMPLOYMENT COUNS</a>	0022-0787	134	0.279	0.333	0.000	17	9.7	0.00015	0.090

By total number of cites however, *J Couns Dev* fares marginally better, ranking fourth in its peer group.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data <sup>i</sup>						Eigenfactor <sup>®</sup> Metrics <sup>i</sup>	
				2012 Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	2012 Items	Cited Half-life	Eigenfactor <sup>®</sup> Score	Article Influence <sup>®</sup> Score
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<input checked="" type="checkbox"/>	3	<a href="#">COUNS PSYCHOL</a>	0011-0000	1429	1.325	2.309	1.659	41	8.1	0.00242	0.790
<input checked="" type="checkbox"/>	4	<a href="#">J COUNS DEV</a>	0748-9633	1159	0.669	0.773	0.067	60	>10.0	0.00103	0.217
<input checked="" type="checkbox"/>	5	<a href="#">CAREER DEV Q</a>	0889-4019	607	1.260	1.299	0.036	28	9.6	0.00093	0.398
<input checked="" type="checkbox"/>	6	<a href="#">J CAREER DEV</a>	0894-8453	390	1.118	1.564	0.037	27	6.5	0.00091	0.476
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<input checked="" type="checkbox"/>	9	<a href="#">J EMPLOYMENT COUNS</a>	0022-0787	134	0.279	0.333	0.000	17	9.7	0.00015	0.090
<input checked="" type="checkbox"/>	10	<a href="#">INT J EDUC VOCAT GUI</a>	0251-2513	108	0.500		0.231	13	6.0	0.00030	

Overall, this is how *J Couns Dev* sits within the entire Applied Psychology category:

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
PSYCHOLOGY, APPLIED	73	56	Q4

## APPENDIX E: EFFECTIVE NETWORKER ONLINE QUESTIONNAIRE & SCORING

Randomised Question No.	Variable ID	Disposition	Question	Scoring
1	Name	Name	Name	nil
2	Email	Email	Email	nil
3	DIL05	Diligence	<i>I'm not good at staying in touch with people</i>	-ve
4	PER02	Persistence	<i>If someone doesn't return my call, I make a diary note to call again</i>	+ve
5	DIL01	Diligence	<i>If someone gives me their business card at an event, I follow up within a week or so</i>	+ve
6	PER08	Persistence	<i>I like the challenge of finding the person who can give me the information I'm looking for</i>	+ve
7	CUR02	Curiosity	<i>I remember what people tell me about themselves</i>	+ve
8	PER09	Persistence	<i>If one contact can't help me with a problem, I try to think of who else I could ask for help</i>	+ve
9	OPT06	Optimism	<i>Opportunities don't come to me 'out of the blue'</i>	-ve
10	RSK02	Risk Taking	<i>It's important to let people know what I'm trying to achieve</i>	+ve
11	PER07	Persistence	<i>If a contact doesn't respond to a voicemail, I don't bother calling them again</i>	-ve
12	CUR01	Curiosity	<i>I engage strangers in conversation</i>	+ve
13	RSK06	Risk Taking	<i>I don't hesitate to ask my contacts for referrals</i>	+ve
14	FLX09	Flexibility	<i>I don't bother to leave voicemails; people never respond</i>	-ve
15	OPT03	Optimism	<i>I don't expect to fulfil my major life ambitions</i>	-ve
16	PER10	Persistence	<i>If someone can't help me, I ask them if they know somebody else who might be able to</i>	+ve
17	FLX02	Flexibility	<i>I only network when I need something specific like a sale, a referral or new business</i>	-ve
18	FLX06	Flexibility	<i>When faced with a challenge, I think 'who do I know who could help me with this?'</i>	+ve
19	DIL09	Diligence	<i>I keep an eye out for events at which I might meet interesting people</i>	+ve
20	FLX10	Flexibility	<i>I don't find it easy to make myself at home with a new group of people</i>	-ve

21	CUR05	Curiosity	<i>I genuinely want to know more when people tell me about their hobbies and interests</i>	+ve
22	RSK08	Risk Taking	<i>I'll meet a new acquaintance for coffee even if there's no immediate apparent benefit to me</i>	+ve
23	PER01	Persistence	<i>If someone doesn't return my call, they're not interested in talking to me</i>	-ve
24	RSK01	Risk Taking	<i>I don't like to ask for help or advice</i>	-ve
25	FLX08	Flexibility	<i>When I meet with people, I think how I might be able to help them</i>	+ve
26	OVR01	overall	<i>I consider myself to be an effective networker</i>	+ve
27	PER06	Persistence	<i>If someone doesn't reply to my emails, I don't assume that it means they aren't interested in keeping in touch with me.</i>	-ve
28	DIL10	Diligence	<i>I don't make time to keep in touch with people</i>	-ve
29	OPT05	Optimism	<i>I assume people will be helpful</i>	+ve
30	CUR04	Curiosity	<i>I'm not interested in what people do outside their normal working day</i>	-ve
31	OVR02	overall	<i>I don't consider myself to have the skills to be an effective networker</i>	-ve
32	OPT10	Optimism	<i>People don't feel it useful to be connected to me</i>	-ve
33	PER05	Persistence	<i>If someone cancels a meeting at the last minute, I assume they didn't really want to meet</i>	-ve
34	RSK09	Risk Taking	<i>Putting two of my contacts directly in touch with each other is a threat to my position as gatekeeper of the relationship</i>	-ve
35	RSK10	Risk Taking	<i>I am willing to help someone even if I don't see something immediate in it for me</i>	+ve
36	FLX07	Flexibility	<i>I don't like having meetings with business contacts unless there's a specific agenda</i>	-ve
37	HON01	Honesty	<i>I don't make personal calls in company time</i>	+ve
38	DIL03	Diligence	<i>Following up with someone after a meeting isn't important</i>	-ve
39	OPT09	Optimism	<i>As far as contacts are concerned, the rich get richer</i>	+ve
40	DIL04	Diligence	<i>After meeting someone, I make notes about what I learnt about them personally</i>	+ve
41	OPT02	Optimism	<i>Other people have more influence over my career than I do</i>	-ve
42	DIL02	Diligence	<i>I'm not in touch with many people from my past</i>	-ve
43	DIL08	Diligence	<i>I don't stay in touch with people I like unless there's some immediate or obvious benefit</i>	-ve
44	FLX01	Flexibility	<i>If I don't get a response to an email, I pick up the phone</i>	+ve
45	OPT07	Optimism	<i>It's the unexpected connections that yield the most interesting results</i>	+ve
46	CUR08	Curiosity	<i>I like chatting</i>	+ve

47	FLX03	Flexibility	<i>I don't like sharing my contacts with others</i>	-ve
48	OPT01	Optimism	<i>In your business career, you make your own luck</i>	+ve
49	HON02	Honesty	<i>I don't make personal use of company stationery</i>	+ve
50	RSK04	Risk Taking	<i>At a party, I actively seek out people I don't know to chat to</i>	+ve
51	CUR10	Curiosity	<i>I enjoy trying to find something in common with people when I first meet them</i>	+ve
52	PER03	Persistence	<i>If someone doesn't respond to my email request for information, they're not prepared to offer it</i>	-ve
53	RSK05	Risk Taking	<i>If I meet someone on train or plane and get chatting, I don't bother to exchange contact details</i>	-ve
54	OPT08	Optimism	<i>I can find a 'silver lining' when something bad happens</i>	+ve
55	PER04	Persistence	<i>I recognise that I'm not top of other people's list of priorities</i>	+ve
56	FLX04	Flexibility	<i>If someone new takes over a role, I find out where my old contact has gone</i>	+ve
57	DIL07	Diligence	<i>I use written 'to do' lists to keep my work on track</i>	+ve
58	CUR03	Curiosity	<i>I don't remember much about the small talk I have at meetings or events</i>	-ve
59	RSK03	Risk Taking	<i>I'm only comfortable with people I know well</i>	-ve
60	CUR07	Curiosity	<i>I'm not interested in finding out about things I know little or nothing about</i>	-ve
61	RSK07	Risk Taking	<i>I think 'what's in it for me' before offering to help someone</i>	-ve
62	DIL06	Diligence	<i>If someone suggests I call them back in three months, I make a diary note to do so to ensure it happens</i>	+ve
63	FLX05	Flexibility	<i>I emerge from meetings with an unexpected idea, contact or opportunity</i>	+ve
64	OPT04	Optimism	<i>People are not generous with their ideas and contacts</i>	-ve
65	CUR09	Curiosity	<i>I don't like conversations that don't have a clear purpose and / or direction</i>	-ve
66	CUR06	Curiosity	<i>I find myself talking more about what I'm doing than asking about what others are doing</i>	-ve

## **APPENDIX F: HIGHLY EFFECTIVE PILOT STUDY NETWORKERS & REASONS FOR SELECTION**

### **JN**

Solicitor who has been a partner in city law firm but left to join a small partnership specialising in IP. Speaks at industry conferences worldwide and brings in a lot of new business through personal referrals. Excellent at finding out about people. Has very busy non-work life.

### **CD**

Careers consultant who advocates the importance of networking at every opportunity with his clients. First met when he attended one of my workshops at London Business School several years ago. Subsequently became a friend and co-presents with me on negotiation skills workshops. Gets most of his work by personal recommendation but also very good at alerting others to possible opportunities

### **SL**

Suggested for this pilot by my business partner although also known to me through London Business School. Very good at making and maintaining connections.

### **DZ**

Now retired, this vice Chairman of a major global accounting and consultancy firm is known to me as a highly accomplished networker, who knows a huge variety of people, attends and chairs numerous events and is always willing to help. Known within his own industry and to his clients as an effective networker who understands its importance as a crucial business school.

### **SB**

Identified by my business partner as an appropriate person to participate in this pilot. Not known to me.

**MC**

Marketing specialist with INSEAD MBA who is a natural networker in work and domestic life. Stays in contact with people, strikes up conversations easily, hosts relatively large numbers of events (dinners, drinks etc) to which invited a wide range of guests.

**JN**

Retired housewife with advertising background who excels at chatting to strangers, getting good information and offering help to others. Always very busy with wide variety of interests and entertains widely. Makes new contacts easily and excels at staying in touch over the longer term.

**GS**

Durham MBA with an interest in social network analysis who is demonstrably good at making connections and 'gets' the concept of effective networking as taught by me.

**DM**

Identified by my business partner as an appropriate person to participate in this pilot and known to me by reputation over several years as entrepreneurial and open to new opportunities.

**JH**

Identified by my business partner as an appropriate person to participate in this pilot and known to me by reputation over several years as someone willing to share contacts and investigate opportunities.

**PM**

Serial entrepreneur in high tech arena (display technologies) with doctorate laser physics as well as Masters in Management. Was at LBS with author and have been friends since.

**JP**

My business partner since 2001, whose role in developing the networking skills workshop with me is indicative of her understanding of the area. Personally, she exhibits all the qualities this questionnaire seeks to elicit.

**SG**

Self employed advisor to the financial sector, generating business for her training workshops largely through referral. Lively, good conversationalist, good at engaging strangers in conversation, good at staying in touch.

**PR**

Known to me as a friend since meeting at London Business School over ten years ago. Very good at making the effort to stay in touch, good at making people feel valued and is involved in entrepreneurial business opportunities. Well liked yet highly competitive.

**DY**

Khazakstan national undertaking DBA who impressed by bringing to author's attention (unprompted) highly relevant research of which he'd been unaware. Quiet but keeps eyes and ears wide open.

**CS**

Author of several books about networking, hosts a regular 'salon' to which all manner of disparate people invited and consults in the area. Used to produce BBC Radio 4 'Any Questions', so has huge address book and makes use of it.

**SH**

One of those people who does what he says he's going to do, talks freely about interests within and outside work and is just plain helpful.

**PE**

Highly recommended by SH as participant and not known personally to author. Email correspondence suggests her 'take' on networking is very much in line with mine. Runs a training company.

**SG**

Recommended by TL and not known personally to author until phone conversation to invite his participation. Website suggests networking and connecting very important to him. Hosts monthly drinks evening to put people together.

## **APPENDIX G: NEWTON NETWORKING INVENTORY INTRODUCTION TO OUTPLACEMENT AGENTS**

### **Introduction to the Newton Networking Inventory**

The Newton Networking Inventory (NNI) is a diagnostic tool that has been in development for the three academic years during which the author has been engaged on doctoral research into networking at Durham Business School.

Core to the development of the tool has been the question “what makes an effective networker?” While personality is certainly a factor, traditional personality inventories don't map well to networking efficacy. A quick and stereotypical example suggests one reason why: the person who appears to be the life and soul of the party may not dream of offering someone a valuable contact, while another for whom a party is hell on earth quietly makes connections and get things done.

Instead, networking success appears to be related more to a combination of ‘mindset’ and ‘activity’ which can be taught, learned and adopted.

The NNI takes as its starting point the theory of ‘planned happenstance’ proposed by Mitchell, Levin & Krumboltz (Journal of Counseling & Development, Spring 1999). This typology highlights the importance of curiosity, flexibility, optimism, persistence and risk taking in generating ‘chance events’. A sixth axis, diligence, has been added to reflect the importance of managing the networking process.

An earlier research project by this researcher confirmed that these six dispositions indeed appear to be shared by highly effective networkers, and so further data is now sought as to how these attributes map against other groups for whom networking is a key skill.

### **Why you and your clients will find it useful to participate**

Research already completed to a level of academic rigour acceptable to Durham Business School has already identified the ‘Gold Standard’ attributes exhibited by a carefully selected of highly effective networkers. In its current format, the NNI used as a ‘one off’ allows direct comparison of a client’s attributes with that standard, making it a useful diagnostic tool on which to base discussion, challenge entrenched views and identify areas for development. Being based on mindset and actions rather than personality, results are likely to change after intervention, allowing use as a longitudinal tool to demonstrate improvement in the client (providing motivation and reinforcement) and efficacy of the consultant’s input.

Involvement with this research offers PR and publication opportunities for those involved, plus access to research findings and permission for ongoing free use of an academically credible, copyright protected tool.

## **Time Commitment**

The version of the questionnaire proposed for outplacement consultancy use has 68 questions. This may initially seem onerous, but this number of questions is necessary for effective statistical rigour and as all questions are in 'radio button' format, completion is typically reported to take less than ten minutes. Completion is via printed worksheets which the researcher will supply.

## **Research Transparency**

Clearly, the relationship between client and consultant is sacrosanct, so the suggestion is that questionnaire responses will be analysed by the researcher and results delivered to the consultant, not the client, as a short report that compares networking performance to the 'Gold Standard' and also, as research develops and the number of respondents grows to a statistically useful number, to their peers across a number of parameters.

## **Ethical considerations**

This research complies with Durham Business School's research ethics standards and no participant will be individually identifiable by name within the research.

## **About the author**

As co-founder and Director of Management Advantage Ltd, Tony Newton has taught business networking skills since 2001 at business schools, corporates and 'non profit' organizations in the UK and abroad. He combines a life sciences background with a Masters in Business Management from the London Business School's Sloan programme and has held senior corporate communications positions within FTSE 250 and Nasdaq 100 companies, with responsibilities covering the entire corporate communications and investor relations spectrum.

Newton's science, medicine and technology writing has appeared in *The Times*, *The Independent* and numerous lay and specialist publications. He has also broadcast for the BBC and written extensively for the Web.

Newton's management training role meshes with his work as co-founder and director of online marketplace CQout Ltd, and with corporate communications and copy writing activities for medical device and pharma companies.

In 2007, Newton commenced a part time Doctorate at Durham Business School, researching business networking skills.

## **APPENDIX H: NEWTON NETWORKING INVENTORY SAMPLE REPORT**

### **Newton Networking Inventory Report for [name removed]**

#### **Introduction**

The Newton Networking Inventory (NNI) is a diagnostic tool that has been in development for the three academic years during which the author has been engaged on doctoral research into networking at Durham Business School.

Core to the development of the tool has been the question “what makes an effective networker?” While personality is certainly a factor, traditional personality inventories don’t map well to networking efficacy. A quick and stereotypical example suggests one reason why: the person who appears to be the life and soul of the party may not dream of offering someone a valuable contact, while another for whom a party is hell on earth quietly makes connections and get things done.

Instead, it seems more appropriate to consider networking efficacy as a combination of mindset and activity which can be modelled, taught, and adopted.

The NNI takes as its starting point the theory of ‘planned happenstance’ proposed by Mitchell, Levin & Krumboltz (Journal of Counseling & Development, Spring 1999). This typology highlights the importance of curiosity, flexibility, optimism, persistence and risk taking in generating ‘chance events’. A sixth disposition, diligence, has been added to reflect the importance of managing the networking process.

#### **Who Am I Being Compared With?**

The research on which this survey is based considers a highly effective networker to be someone who stands out in the minds of their peers as being really good at ‘networking’ (however they define it). Thus, it avoids the trap of self-reporting, and builds on the fact that a key element in effective networking is to be ‘front of mind’ with the people you are connected with. Most of us will know perhaps one or two such individuals out of our entire acquaintance, suggesting that the Gold Standard being used for comparison represents the top 5% of the population in terms of networking efficacy.

That ‘Gold Standard’ dataset continues to grow as questionnaire respondents identify others in their networks who they consider to be outstanding in this respect.

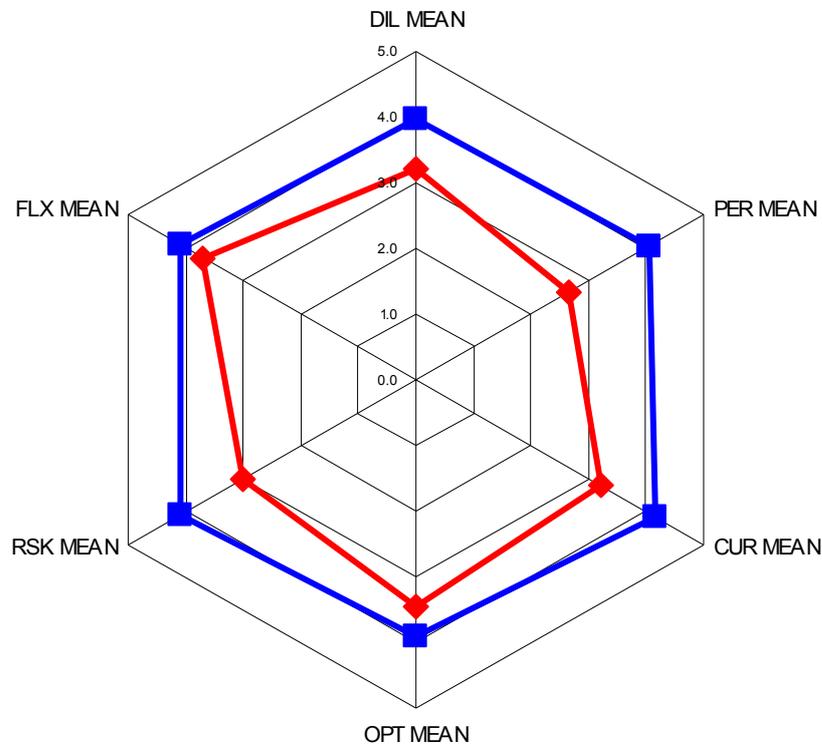
#### **What Is Being Compared?**

The six axes used in this typology are:

- Curiosity: exploring new learning opportunities
- Persistence: exerting effort despite setbacks
- Flexibility: changing attitudes and circumstances
- Optimism: viewing new opportunities as possible and attainable
- Risk Taking: taking action in the face of uncertain outcomes
- Diligence: delivering on intentions

## How Do I Compare To the 'Gold Standard'?

The radar chart below shows the mean Gold Standard scores in blue, and your individual score (or more accurately, the mean of all your question scores on that axis) in red.



## How Do I Interpret This Result?

Shown graphically, it is immediately apparent that there are differences between your scores and those of the Gold Standard group. This indicates that, in networking terms, there may be things that those in the Gold Standard group either do differently or think about differently that could offer useful insights to help improve your own networking.

## How Can I Benefit From This Result?

The axes which show the greatest deviation from Gold Standard scores are:

- Curiosity: exploring new learning opportunities
- Persistence: exerting effort despite setbacks
- Diligence: delivering on intentions
- Risk Taking: taking action in the face of uncertain outcomes

Please note that these terms are used only within the context of networking activity, so (for example) persistence in the sense it is used here has nothing much to do with the persistence needed to learn to hit a golf ball.

The questions relating to each of these axes which differ from the Gold Standard mean by around one scale point are attached to this report. Ask yourself (or preferably work through with a colleague or counsellor to help you think more broadly and creatively) how a highly effective networker might have

answered those same questions, why their responses might have differed from yours, and what you can do in practical terms to change your own response if asked that same question six months from now. Use this as a 'jumping off point' for a discussion about what's actually behind the question in terms of mindset, and what that means for a possible change in related activity.

It may be that answers to some, or even many, of the questions won't change, because we all have strengths, weaknesses and personal preferences. You might even query whether some of the questions actually relate to networking as you've previously defined it personally. But from Neuro Linguistic Programming (NLP) comes a rather nice epigram: "If you do what you've always done, you'll get what you've always got".

## **Questions For Consideration**

### **Curiosity:**

- I remember what people tell me about themselves
- I engage strangers in conversation
- I genuinely want to know more when people tell me about their hobbies and interests
- I'm not interested in what people do outside their normal working day
- I like chatting
- I enjoy trying to find something in common with people when I first meet them
- I don't remember much about the small talk I have at meetings or events
- I'm not interested in finding out about things I know little or nothing about
- I don't like conversations that don't have a clear purpose and / or direction
- I find myself talking more about what I'm doing than asking about what others are doing

### **Persistence:**

- If someone doesn't return my call, I make a diary note to call again
- I like the challenge of finding the person who can give me the information I'm looking for
- If one contact can't help me with a problem, I try to think of who else I could ask for help
- If a contact doesn't respond to a voicemail, I don't bother calling them again
- If someone can't help me, I ask them if they know somebody else who might be able to
- If someone doesn't return my call, they're not interested in talking to me
- If someone doesn't reply to my emails, I don't assume that it means they aren't interested in keeping in touch with me
- If someone cancels a meeting at the last minute, I assume they didn't really want to meet
- If someone doesn't respond to my email request for information, they're not prepared to offer it
- I recognise that I'm not top of other people's list of priorities

**Diligence:**

- I'm not good at staying in touch with people
- If someone gives me their business card at an event, I follow up within a week or so
- I keep an eye out for events at which I might meet interesting people
- I don't make time to keep in touch with people
- Following up with someone after a meeting isn't important
- After meeting someone, I make notes about what I learnt about them personally
- I'm not in touch with many people from my past
- I don't stay in touch with people I like unless there's some immediate or obvious benefit
- I use written 'to do' lists to keep my work on track
- If someone suggests I call them back in three months, I make a diary note to do so to ensure it happens

**Risk Taking:**

- It's important to let people know what I'm trying to achieve
- I don't hesitate to ask my contacts for referrals
- I'll meet a new acquaintance for coffee even if there's no immediate apparent benefit to me
- I don't like to ask for help or advice
- Putting two of my contacts directly in touch with each other is a threat to my position as gatekeeper of the relationship
- I am willing to help someone even if I don't see something immediate in it for me
- At a party, I actively seek out people I don't know to chat to
- If I meet someone on train or plane and get chatting, I don't bother to exchange contact details
- I'm only comfortable with people I know well
- I think 'what's in it for me' before offering to help someone

**APPENDIX J: PROJECT #1 RESULTS**

**KMO and Bartlett's test on Project #1 data**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.899
Bartlett's Test of Sphericity	Approx. Chi-Square	12640.927
	df	1770
	Sig.	.000

**Monte Carlo parallel analysis on Project #1 data**

Number of variables:	60	
Number of subjects:	407	
Number of replications:	100	
Eigenvalue #	Random Eigenvalue	Standard Dev
1	1.8461	0.0421
2	1.7678	0.0361
3	1.7111	0.0297
4	1.6648	0.0243
5	1.6209	0.0235
6	1.5821	0.0227
7	1.542	0.0219
8	1.5088	0.0201
9	1.4716	0.0189
10	1.4388	0.0205

**Top 10 eigenvalues from MonteCarlo PCA**

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	10.492	17.486	17.486	9.989	16.648	16.648	5.731
2	2.792	4.653	22.139	2.266	3.777	20.426	2.582
3	2.246	3.743	25.882	1.716	2.859	23.285	3.370
4	2.104	3.506	29.388	1.571	2.618	25.904	2.197
5	1.884	3.140	32.527	1.338	2.230	28.134	2.171
6	1.870	3.117	35.645	1.317	2.195	30.329	3.184
7	1.584	2.640	38.285	1.100	1.834	32.163	4.047
8	1.516	2.527	40.811	.984	1.641	33.803	2.353
9	1.468	2.447	43.258	.913	1.521	35.324	4.018
10	1.363	2.271	45.529	.854	1.424	36.748	3.599

**Total variance explained for 407 cases**

**Communality of Project #1 CFA variables**

R-SQUARE				
Observed				Two-
Variable	Estimate	Standard Error	Est./S.E.	P-Value
DIL02	0.368	0.049	7.457	0.000
DIL05	0.435	0.049	8.857	0.000
DIL06	0.367	0.063	5.861	0.000
DIL08	0.593	0.078	7.553	0.000
DIL10	0.564	0.051	11.08	0.000
PER01	0.503	0.051	9.845	0.000
PER02	0.394	0.065	6.023	0.000
PER03	0.403	0.049	8.148	0.000
PER05	0.389	0.049	7.866	0.000
PER07	0.226	0.044	5.175	0.000
PER09	0.355	0.053	6.743	0.000
PER10	0.505	0.058	8.785	0.000
CUR01	0.452	0.046	9.827	0.000
CUR02	0.195	0.051	3.834	0.000
CUR03	0.792	0.152	5.222	0.000
CUR09	0.692	0.114	6.067	0.000
OPT01	0.169	0.041	4.107	0.000
OPT02	0.327	0.05	6.476	0.000
OPT03	0.454	0.052	8.672	0.000
OPT10	0.411	0.052	7.869	0.000
RSK03	0.487	0.046	10.646	0.000
RSK04	0.478	0.046	10.32	0.000
RSK07	0.24	0.05	4.789	0.000
RSK10	0.163	0.045	3.657	0.000

FLX06	0.346	0.051	6.721	0.000
FLX07	0.253	0.055	4.614	0.000
FLX10	0.582	0.044	13.134	0.000

**T-test summary for effective networkers vs. poor networkers**

	Levene's Test for Equality of Variances	t-test for Equality of Means
	Sig.	Sig. (2- tailed)
HKCONTA	.558	.000
DIARY	.489	.546
LACKPER	.706	.062
SELFCNF	.588	.005
ALTRU	.950	.579
OPENHELP	.593	.394
MEMORY	.923	.007
ENGAGE	.950	.000
CLRPURP	.150	.013

**T-test summary for effective networkers vs. all other responses**

		Levene's Test for Equality of Variances	t-test for Equality of Means
		Sig.	Sig. (2-tailed)
HKCONTA	Equal variances assumed	0.163	.000
DIARY	Equal variances assumed	0.246	.000
LACKPER	Equal variances assumed	0.89	.000
SELFCNF	Equal variances assumed	0.45	.000
ALTRU	Equal variances assumed	0.158	0.021
OPENHELP	Equal variances assumed	0.279	.000
MEMORY	Equal variances not assumed	0.023	.000
ENGAGE	Equal variances not assumed	0.005	.000
CLRPURP	Equal variances assumed	0.421	.000

## APPENDIX K: PROJECT #2 RESULTS

### KMO and Bartlett's test for Project #2 data

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.847
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.
	5915.546
	1176
	.000

### Mean inter-item correlation for all Project #2 scales

	Mean	Min.	Max.	Range	Scale Items
MAI	0.483	0.389	0.733	0.344	5
CMA	0.327	0.229	0.474	0.245	3
PER	0.486	0.359	0.594	0.235	3
LOC	0.360	0.278	0.460	0.182	3
ALT	0.212	0.165	0.309	0.144	4
HLP	0.585	0.550	0.604	0.054	3
RCL	0.544	0.477	0.621	0.144	6
ENG	0.448	0.367	0.549	0.182	4
PUR	0.274	0.261	0.295	0.034	3

### Tests of normality on Project #2 data

#### Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Mean_MAI	.102	485	.000	.974	485	.000
Mean_CMA	.180	485	.000	.947	485	.000
Mean_PER	.183	485	.000	.947	485	.000
Mean_LOC	.142	485	.000	.959	485	.000
Mean_ALT	.139	485	.000	.944	485	.000
Mean_HLP	.231	485	.000	.839	485	.000
Mean_RCL	.131	485	.000	.957	485	.000
Mean_ENG	.111	485	.000	.978	485	.000
Mean_PUR	.110	485	.000	.976	485	.000

a. Lilliefors Significance Correction

**Test of homogeneity of variances on Project #2 data**

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Mean_MAI	2.087	6	479	.053
Mean_CMA	1.167	6	479	.323
Mean_PER	.999	6	479	.425
Mean_LOC	.168	6	479	.985
Mean_ALT	2.631	6	479	.016
Mean_HLP	1.803	6	479	.097
Mean_RCL	5.510	6	479	.000
Mean_ENG	2.204	6	479	.041
Mean_PUR	1.633	6	479	.136

**Welch and Brown-Forsythe test output on Project #2 data**

Robust Tests of Equality of Means

		Statistic <sup>a</sup>	df1	df2	Sig.
Mean_ALT	Welch	1.482	6	41.013	.209
	Brown-Forsythe	1.297	6	140.614	.262
Mean_RCL	Welch	11.048	6	40.166	.000
	Brown-Forsythe	10.312	6	59.533	.000
Mean_ENG	Welch	23.607	6	40.278	.000
	Brown-Forsythe	27.596	6	78.279	.000

a. Asymptotically F distributed.

**Project #2 ANOVA**

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Mean_MAI	Between Groups	72.071	6	12.012	25.765	.000
	Within Groups	223.313	479	.466		
	Total	295.384	485			
Mean_CMA	Between Groups	10.611	6	1.768	4.943	.000
	Within Groups	171.389	479	.358		
	Total	182.000	485			
Mean_PER	Between Groups	23.189	6	3.865	9.636	.000
	Within Groups	192.116	479	.401		
	Total	215.305	485			
Mean_LOC	Between Groups	13.431	6	2.239	5.077	.000
	Within Groups	211.210	479	.441		
	Total					

	Total	224.641	485			
Mean_ALT	Between Groups	1.373	6	.229	1.325	.244
	Within Groups	82.743	479	.173		
	Total	84.117	485			
Mean_HLP	Between Groups	6.051	6	1.009	2.646	.016
	Within Groups	182.600	479	.381		
	Total	188.651	485			
Mean_RCL	Between Groups	29.606	6	4.934	10.951	.000
	Within Groups	215.830	479	.451		
	Total	245.436	485			
Mean_ENG	Between Groups	65.268	6	10.878	26.073	.000
	Within Groups	199.848	479	.417		
	Total	265.116	485			
Mean_PUR	Between Groups	10.229	6	1.705	3.664	.001
	Within Groups	222.895	479	.465		
	Total	233.124	485			

**Post hoc multiple comparisons on Project #2 data**

Dependent Variable	(I) Self-report, EN and HR referral	(J) Self-report, EN and HR referral	Mean Difference (I-J)
Mean_MAI	Outplacement referrals	Above average	-1.14667*
		Well above average	-1.72211*
		Effective networkers	-1.38612*
	Very poor	Above average	-.92381*
		Well above average	-1.49925*
		Effective networkers	-1.16327*
	Below average	Average	-.39625*
		Above average	-.75339*
		Well above average	-1.32883*
		Effective networkers	-.99285*
	Average	Below average	.39625*
		Above average	-.35714*
		Well above average	-.93258*
		Effective networkers	-.59660*
	Above average	Outplacement referrals	1.14667*
		Very poor	.92381*
		Below average	.75339*
		Average	.35714*
		Well above average	-.57544*
	Well above average	Outplacement referrals	1.72211*
Very poor		1.49925*	

		Below average	1.32883*
		Average	.93258*
		Above average	.57544*
	Effective networkers	Outplacement referrals	1.38612*
		Very poor	1.16327*
		Below average	.99285*
		Average	.59660*
Mean_CMA	Outplacement referrals	Effective networkers	-1.01088*
	Very poor	Effective networkers	-.63946*
	Below average	Effective networkers	-.43212*
	Average	Effective networkers	-.33588*
	Effective networkers	Outplacement referrals	1.01088*
		Very poor	.63946*
		Below average	.43212*
		Average	.33588*
Mean_PER	Outplacement referrals	Effective networkers	-1.24218*
	Very poor	Above average	-.58201*
		Well above average	-.75940*
		Effective networkers	-1.06122*
	Below average	Effective networkers	-.64277*
	Average	Outplacement referrals	.69286
		Very poor	.51190
		Below average	.09345
		Above average	-.07011
		Well above average	-.24749
		Effective networkers	-.54932*
	Above average	Outplacement referrals	.76296
		Very poor	.58201*
		Below average	.16355
		Average	.07011
		Well above average	-.17739
		Effective networkers	-.47921*
	Well above average	Outplacement referrals	.94035
		Very poor	.75940*
		Below average	.34094
		Average	.24749
		Above average	.17739
		Effective networkers	-.30183
	Effective networkers	Outplacement referrals	1.24218*
		Very poor	1.06122*
		Below average	.64277*
		Average	.54932*
		Above average	.47921*
Mean_LOC	Very poor	Above average	-.63818*
		Effective networkers	-.72789*
	Below average	Above average	-.29894*

		Effective networkers	-.38866*	
	Above average	Very poor	.63818*	
		Below average	.29894*	
	Effective networkers	Very poor	.72789*	
		Below average	.38866*	
Mean_RCL	Very poor	Well above average	-.76566*	
		Effective networkers	-.90476*	
	Below average	Above average	-.35769*	
		Well above average	-.66853*	
		Effective networkers	-.80763*	
	Average	Effective networkers	-.60317*	
	Above average	Below average	.35769*	
		Effective networkers	-.44994*	
	Well above average	Very poor	.76566*	
		Below average	.66853*	
	Effective networkers	Very poor	.90476*	
		Below average	.80763*	
		Average	.60317*	
		Above average	.44994*	
	Mean_ENG	Outplacement referrals	Average	-1.04018*
			Above average	-1.33333*
Well above average			-1.50000*	
Effective networkers			-1.66837*	
Very poor		Above average	-.70833*	
		Well above average	-.87500*	
		Effective networkers	-1.04337*	
Below average		Average	-.45168*	
		Above average	-.74484*	
		Well above average	-.91150*	
		Effective networkers	-1.07987*	
Average		Outplacement referrals	1.04018*	
		Below average	.45168*	
		Above average	-.29315*	
		Effective networkers	-.62819*	
Above average		Outplacement referrals	1.33333*	
		Very poor	.70833*	
		Below average	.74484*	
		Average	.29315*	
Well above average		Outplacement referrals	1.50000*	
		Very poor	.87500*	
		Below average	.91150*	
		Average	.45982	
		Above average	.16667	
		Effective networkers	-.16837	
Effective networkers		Outplacement referrals	1.66837*	
		Very poor	1.04337*	

		Below average	1.07987*	
		Average	.62819*	
Mean_PUR	Very poor	Effective networkers	-.70408*	
	Below average	Effective networkers	-.44091*	
	Average	Effective networkers	-.40845*	
	Effective networkers	Very poor		.70408*
		Below average		.44091*
Average			.40845*	

**Project #2 respondents' age**

Age (Years)

	N	Mean	Std. Dev	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Outplacement referrals	5	50.00	10.173	4.550	37.37	62.63	40	64
Very poor	14	45.57	11.352	3.034	39.02	52.13	26	63
Below average	110	46.74	7.528	.718	45.31	48.16	25	64
Average	165	47.82	8.454	.658	46.52	49.12	25	70
Above average	115	46.37	9.623	.897	44.60	48.15	26	67
Well above average	18	44.78	10.713	2.525	39.45	50.11	26	69
Effective networkers	43	50.58	9.924	1.513	47.53	53.64	30	80
Total	470	47.31	8.938	.412	46.50	48.12	25	80

**Tests of between-subjects effects- LOC**

Tests of Between-Subjects Effects

Dependent Variable: Mean\_LOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	18.279a	7	2.611	5.984	.000	.082
Intercept	263.176	1	263.176	603.037	.000	.564
GROUP	14.353	6	2.392	5.481	.000	.066
AGE	4.633	1	4.633	10.617	.001	.022
Error	203.370	466	.436			
Total	7115.444	474				
Corrected Total	221.650	473				

Tests of Between-Subjects Effects

Dependent Variable:Mean\_LOC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	18.279a	7	2.611	5.984	.000	.082
Intercept	263.176	1	263.176	603.037	.000	.564
GROUP	14.353	6	2.392	5.481	.000	.066
AGE	4.633	1	4.633	10.617	.001	.022
Error	203.370	466	.436			
Total	7115.444	474				
Corrected Total	221.650	473				

a. R Squared = .082 (Adjusted R Squared = .069)

**Tests of between-subjects effects- RCL**

Tests of Between-Subjects Effects

Dependent Variable:Mean\_RCL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	32.115a	7	4.588	10.337	.000	.134
Intercept	240.336	1	240.336	541.516	.000	.537
GROUP	30.231	6	5.038	11.352	.000	.128
AGE	3.101	1	3.101	6.988	.008	.015
Error	206.820	466	.444			
Total	6201.639	474				
Corrected Total	238.936	473				

a. R Squared = .134 (Adjusted R Squared = .121)

**Tests of between-subjects effects- ENG**

Tests of Between-Subjects Effects

Dependent Variable:Mean\_ENG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	65.980a	7	9.426	22.587	.000	.253
Intercept	111.687	1	111.687	267.634	.000	.365
GROUP	61.587	6	10.264	24.597	.000	.241
AGE	3.221	1	3.221	7.719	.006	.016
Error	194.467	466	.417			

Total	5425.938	474				
Corrected Total	260.447	473				

a. R Squared = .253 (Adjusted R Squared = .242)

### **Tests of between-subjects effects- HLP**

Tests of Between-Subjects Effects

Dependent Variable:Mean\_HLP

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	13.456a	13	1.035	2.804	.001	.073
Intercept	99.045	1	99.045	268.354	.000	.368
GROUP	6.430	6	1.072	2.904	.009	.036
AGE	.356	1	.356	.965	.326	.002
GROUP * AGE	6.565	6	1.094	2.964	.008	.037
Error	169.777	460	.369			
Total	8754.778	474				
Corrected Total	183.233	473				

a. R Squared = .073 (Adjusted R Squared = .047)

### **Tests of between-subjects effects- MAI**

Tests of Between-Subjects Effects

Dependent Variable:Mean\_MAI

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	81.590a	7	11.656	26.060	.000	.276
Intercept	1086.110	1	1086.110	2428.328	.000	.836
GROUP	65.529	6	10.922	24.418	.000	.235
SEX	9.520	1	9.520	21.284	.000	.043
Error	213.793	478	.447			
Total	5832.240	486				
Corrected Total	295.384	485				

a. R Squared = .276 (Adjusted R Squared = .266)

### **Tests of between-subjects effects- RCL**

Tests of Between-Subjects Effects

Dependent Variable:Mean\_RCL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	34.590a	7	4.941	11.203	.000	.141

Intercept	1239.334	1	1239.334	2809.640	.000	.855
GROUP	26.469	6	4.411	10.001	.000	.112
SEX	4.984	1	4.984	11.299	.001	.023
Error	210.846	478	.441			
Total	6375.222	486				
Corrected Total	245.436	485				

a. R Squared = .141 (Adjusted R Squared = .128)

**APPENDIX L: PRE-PROJECT #3 DUMMY DATA RESULTS**

**Table 34: Paired samples t-test for dummy data**

Paired Samples Test

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Dev.	Std. Error Mean	Lower	Upper			
Pair 1	T1_Mean_MAI - T2_Mean_MAI	-.54286	.71531	.10219	-.74832	-.33740	-5.312	48	.000
Pair 2	T1_Mean_CMA - T2_Mean_CMA	-.47619	1.02289	.14613	-.77000	-.18238	-3.259	48	.002
Pair 3	T1_Mean_PER - T2_Mean_PER	-.85714	.88976	.12711	-1.11271	-.60157	-6.743	48	.000
Pair 4	T1_Mean_LOC - T2_Mean_LOC	-.71429	.77579	.11083	-.93712	-.49145	-6.445	48	.000
Pair 5	T1_Mean_ALT - T2_Mean_ALT	.10714	.47048	.06721	-.02800	.24228	1.594	48	.117
Pair 6	T1_Mean_HLP - T2_Mean_HLP	-.71429	1.13243	.16178	-1.03956	-.38901	-4.415	48	.000
Pair 7	T1_Mean_RCL - T2_Mean_RCL	-.66667	.72807	.10401	-.87579	-.45754	-6.410	48	.000
Pair 8	T1_Mean_ENG - T2_Mean_ENG	-.67857	.90283	.12898	-.93789	-.41925	-5.261	48	.000
Pair 9	T1_Mean_PUR - T2_Mean_PUR	-.76190	1.09079	.15583	-1.07522	-.44859	-4.889	48	.000

**Paired samples t-test for dummy data #2**

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Dev.	Std. Error Mean	Lower	Upper			
Pair 1	T1_Mean_MAI - T2_Mean_MAI	.60000	.63901	.09129	.41645	.78355	6.573	48	.000
Pair 2	T1_Mean_CMA - T2_Mean_CMA	-.04762	.70711	.10102	-.25072	.15549	-.471	48	.639

Pair 4	T1_Mean_LOC - T2_Mean_LOC	.61905	.68381	.09769	.42264	.81546	6.337	48	.000
Pair 5	T1_Mean_ALT - T2_Mean_ALT	1.39286	.40182	.05740	1.27744	1.50827	24.265	48	.000
Pair 6	T1_Mean_HLP - T2_Mean_HLP	1.47619	1.21906	.17415	1.12604	1.82635	8.476	48	.000
Pair 7	T1_Mean_RCL - T2_Mean_RCL	.45238	.89882	.12840	.19421	.71055	3.523	48	.001
Pair 8	T1_Mean_ENG - T2_Mean_ENG	-.92857	.61450	.08779	-1.10508	-.75207	-10.578	48	.000

**Paired samples t-test for dummy data #3**

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	T1_Mean_MAI - T2_Mean_MAI	-.71429	.73937	.10562	-.92666	-.50191	-6.763	48	.000
Pair 2	T1_Mean_CMA - T2_Mean_CMA	-.28571	.49065	.07009	-.42665	-.14478	-4.076	48	.000
Pair 3	T1_Mean_PER - T2_Mean_PER	-.09524	.69054	.09865	-.29359	.10311	-.965	48	.339
Pair 4	T1_Mean_LOC - T2_Mean_LOC	-.80952	.69389	.09913	-1.00883	-.61022	-8.167	48	.000
Pair 5	T1_Mean_ALT - T2_Mean_ALT	.10714	.57054	.08151	-.05674	.27102	1.315	48	.195
Pair 6	T1_Mean_HLP - T2_Mean_HLP	-.09524	.56108	.08015	-.25640	.06592	-1.188	48	.241
Pair 7	T1_Mean_RCL - T2_Mean_RCL	-.16667	.44096	.06299	-.29332	-.04001	-2.646	48	.011
Pair 8	T1_Mean_ENG - T2_Mean_ENG	.28571	.43601	.06229	.16048	.41095	4.587	48	.000
Pair 9	T1_Mean_PUR - T2_Mean_PUR	-.04762	1.21335	.17334	-.39613	.30090	-.275	48	.785

## APPENDIX M: PROJECT #3 RESULTS

### Normality tests on Project #3 data

Key to table:

Preselfrep = pre-workshop self-reported networking efficacy

Postselfrep = one month post-workshop follow-up self-reported networking efficacy

	Sample size	Pre-workshop sample normally distributed?	Difference between pre- and post scores normally distributed?
Whole Dataset	100	assumed	assumed
Open workshops only	8	tested, normal	tested, normal
Age <30	38	assumed	assumed
Age 30-39	49	assumed	assumed
Age 40-49	7	tested, normal	tested, normal
Age 50+	5	tested, normal	tested, normal
Female only	39	assumed	assumed
Male only	61	assumed	assumed
Postselfrep >preselfrep	56	assumed	assumed
Preselfrep $\leq 2$ and Preselfrep $\geq$ postselfrep	11	tested, normal	tested, normal
Female only Preselfrep $\leq 2$ and Preselfrep $\geq$ postselfrep	5	tested, normal	tested, normal

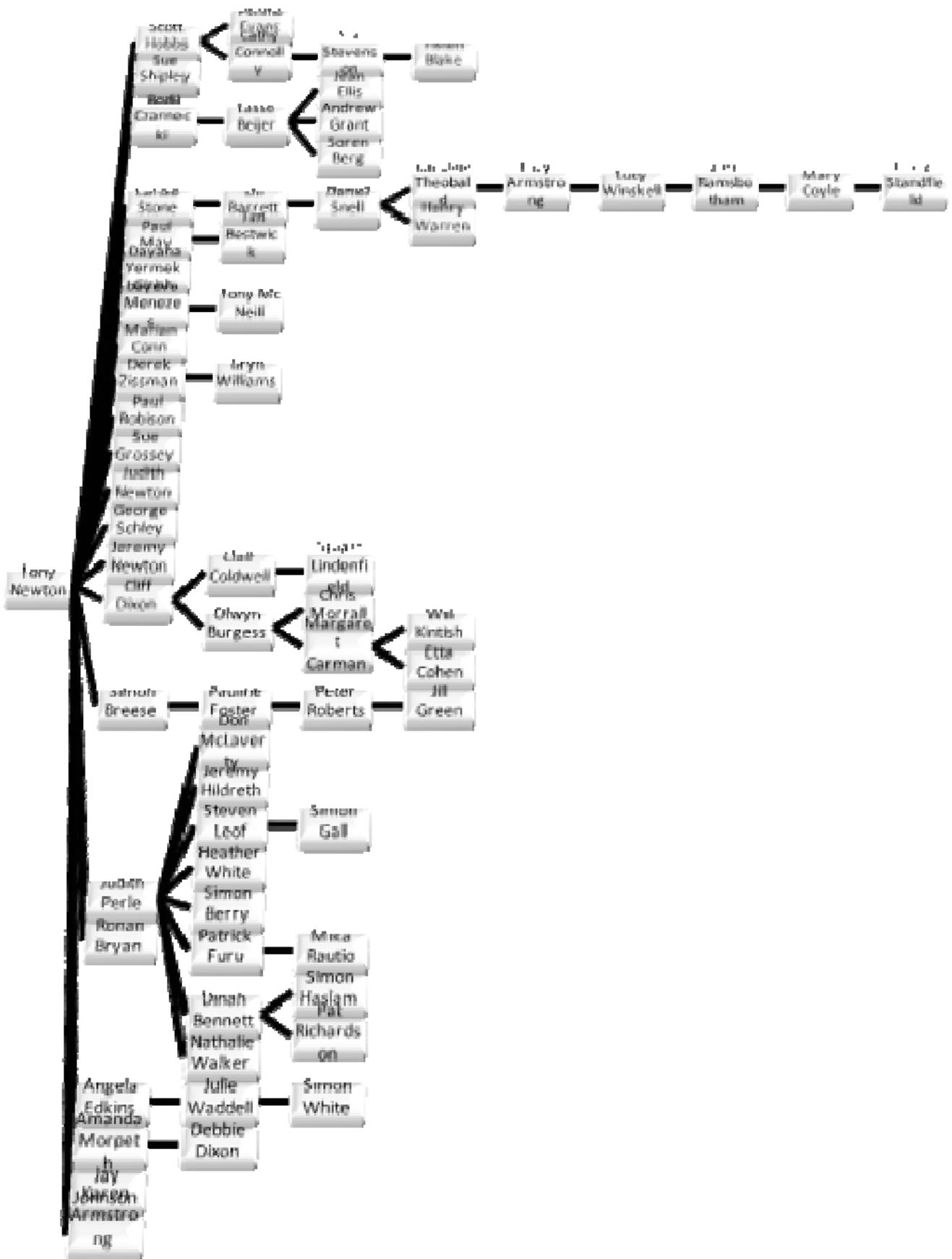
Male only Preselfrep ≤2 and Preselfrep ≥ postselfrep	6	tested, normal	tested, normal
Preselfrep ≥4 and Preselfrep ≥ postselfrep	16	tested, normal	tested, normal
Female only Preselfrep ≥4 and Preselfrep ≥ postselfrep	7	tested, normal	tested, normal
Male only Preselfrep ≥4 and Preselfrep ≥ postselfrep	9	tested, normal	tested, normal
Female and postself rep > preself rep	20	tested, normal	<b>tested, NOT normal (sig=0.015)</b>
Female and preselfrep ≤2	16	tested, normal	tested, normal
Male and postselfrep >preselfrep	35	assumed	assumed
Male and preselfrep ≤2	27	tested, normal	<b>tested, NOT normal (sig=0.044)</b>
Preselfrep>postselfrep	7	tested, normal	tested, normal
Preselfrep ≤1	6	tested, normal	tested, normal

**APPENDIX N: SECOND ITERATION INVENTORY, WITH NEW QUESTIONS INDICATED**

Old Code	New Code	Question	Scoring	New?
DIL02	MAI01	I'm not in touch with many people from my past		neg
DIL05	MAI02	I'm not good at staying in touch with people		neg
DIL10	MAI03	I don't make time to keep in touch with people		neg
	MAI04	I stay connected with old colleagues and workmates	pos	y
	MAI05	I can't see the point of staying in touch with people I no longer work or socialise with		neg y
	MAI06	I make a point of staying in occasional touch with people I haven't worked with for some time	pos	y
PER02	CMA_01	If someone doesn't return my call, I make a diary note to call again	pos	
DIL06	CMA_02	If someone suggests I call them back in three months, I make a diary note to do so to ensure it happens	pos	
	CMA03	If I promise someone a referral or recommendation, I make sure that I deliver without the need to be reminded	pos	y
	CMA04	I have a tendency to forget to provide promised information until reminded		neg y
	CMA05	I can quickly lay my hands on contact details for pretty much anyone of my acquaintance	pos	y
PER01	PER01	If someone doesn't return my call, they're not interested in talking to me		neg
PER03	PER02	If someone doesn't respond to my email request for information, they're not prepared to offer it		neg
PER05	PER03	If someone cancels a meeting at the last minute, I assume they didn't really want to meet		neg
PER07	PER04	If a contact doesn't respond to a voicemail, I don't bother calling them again		neg
OPT01	LOC01	In your business career, you make your own luck	pos	
OPT02	LOC02	Other people have more influence over my career than I do		neg
OPT03	LOC03	I don't expect to fulfil my major life ambitions		neg
OPT10	LOC04	People don't find it useful to be connected to me		neg
DIL08	ALT01	I don't stay in touch with people I like unless there's some immediate or obvious benefit		neg
RSK07	ALT02	I think 'what's in it for me' before offering to help someone		neg
RSK10	ALT03	I am willing to help someone even if I don't see something immediate in it for me	pos	
	ALT04	It's important to me to be a helpful person	pos	y
	ALT05	I only think about my network when I need information, advice or a referral		neg y
	ALT06	I frequently find myself thinking about how I can put my contacts at the disposal of others	pos	y
	ALT07	I often create opportunities for others that I personally don't immediately benefit from	pos	y
	ALT08	It pleases me to get a request for help from someone in my business network	pos	y
FLX06	HLP01	When faced with a challenge, I think 'who do I know who could help me with this?'	pos	y
PER09	HLP02	If one contact can't help me with a problem, I try to think of who else I could ask for help	pos	
PER10	HLP03	If someone can't help me, I ask them if they know somebody else who	pos	

		might be able to			
	HLP04	When faced with a challenge I see asking for help as a sign of weakness		neg	y
	HLP05	Asking someone for help is demeaning to my own reputation		neg	y
	HLP06	If someone offers unsolicited help at work, it's an implied criticism of my abilities		neg	y
	HLP07	Asking for help makes me look like I don't know how to do my job		neg	y
CUR02	RCL01	I remember what people tell me about themselves	pos		
CUR03	RCL02	I don't remember much about the small talk I have at meetings or events		neg	
	RCL03	I'm good at mentally filing away snippets of conversation for the next time I meet that person	pos		y
	RCL04	I'm good at noting what people tell me about their hobbies and interests and using that on a subsequent occasion	pos		y
	RCL05	I can recall what someone told me about themselves weeks or months previously	pos		y
	RCL06	I'll often kick- start a conversation by referring back to something that person told me at our previous meeting	pos		y
	RCL07	The things that people tell me about themselves tend to 'go in one ear and out the other'		neg	y
	RCL08	I keep a record of the personal and / or professional information that I learn about people	pos		y
FLX10	ENG01	I don't find it easy to make myself at home with a new group of people		neg	
RSK03	ENG02	I'm only comfortable with people I know well		neg	
RSK04	ENG03	At a party, I actively seek out people I don't know to chat to	pos		
CUR01	ENG04	I engage strangers in conversation	pos		
FLX07	PUR01	I don't like having meetings with business contacts unless there's a specific agenda	pos		
CUR09	PUR02	I don't like conversations that don't have a clear purpose and / or direction	pos		
	PUR03	Before arranging a meeting I have a clear checklist of what I am to achieve from it	pos		y
			26	23	

APPENDIX P: EFFECTIVE NETWORKER REFERRAL CHAIN



**APPENDIX R: EFFECTIVE NETWORKER FILTER QUESTION RESPONSES**

Name	Ref By	Do you think that networking is important to your business life?	Can you point to and briefly report a specific episode/occasion when you have benefitted from your own networking activity?	Can you identify and briefly report a specific occasion when you have used your own network to connect two other people to their benefit (not yours) or given someone information that has benefitted them rather than you?
AG	LB	Yes - most innovative solutions to business problems come from involving others from outside your immediate circle of colleagues	Yes- doubled my salary through meeting up with an old contact who subsequently offered me a job	Yes- international contact from France wanted to move to Australia and he contacted me via friends - I then put him in contact with a CEO contact of mine re related professional field in Australia
AM	Tony Newton	NOT NEEDED		
BC		Yes, I do. But I have to admit there has been parts of my life when I've been too too tired or too busy to be a good networker, ie when the children were small, or when there was too many problems around. I'm better now, and finding that the more one does it the more fun it is. There are really so many interesting people that know so much that I don't do.	It's hard to pick out one occasion, I seem to constantly be looking out for meeting new people that can be good for either my company, my clients or myself. Last week I visited the local marketing organisation and at the first coffee break I started speaking with a nice woman who turned out to be a freelance PR agent. Just what I was looking for since my client wanted another offer on that. Later on the same day I saw an old colleague from an advertising agency in a crowd that I haven't spoken to in 5 years. I called for him and asked in out for lunch. Yesterday we had the lunch. He's now a management consultant and just the week before he had gotten a request from	An acquaintance I met on a train had gotten a new job as a CEO of a small printshop. She needed to partner up with another printshop with similar equipment to get a better production flow in a certain machine and called me since she knew that I was in the advertising business. I knew that my husband's company had that type of machine and connected her with the CEO of my husband's company. Not only did they start cooperating, 2 years later she was headhunted by them and now has an international position within the company.

			<p>a new client in a field where he had never worked (medical technology), which made him feel a bit insecure even though he is really experienced. What a coincidence that the medtech field is where I got a lot of experience. Now I might be able to work with him in a business development project, something that will really give me some new experience.</p>	
CC	CD	<p>Yes, particularly since my type of work is secured through reputation, though I believe it's important for everyone</p>	<p>I secured a non-executive board role in a sector which I knew nothing about – the Arts - through a contact of mine who so suggested me. The theatre group was looking specifically for a female with HR experience who might be attuned to/enjoy Arts work. I then went through the interview process and was invited to join the board.</p>	<p>I was asked by an ex-client on behalf of a contact of his to do some development coaching with some challenging characters in the House of Commons. I knew this work required someone with considerable experience of handling difficult situations and passed it on to someone who does similar work to me but whose character I thought would suit the work better. He secured the work as well as some additional, slightly different work.</p>
CC	SH	MISLAID		
CD	Tony Newton	NOT NEEDED		
CM	OB	MISLAID		

CS	Tony Newton	NOT NEEDED		
CT		Yes	Yes: all my team have been recruited through networking (plus interviews of course) and there's lots more of course	Probably the most productive thing I did for someone else was to introduce them to Richard Branson, who introduced that person to the right person in his team, that led to product beta testing...!
DB	Tony Newton	NOT NEEDED		
DM	Judith Perle	NOT NEEDED		
DS	OB	It's essential, it is the business, without it, there is no business. Business is essentially relationships and the value you give others, if you do that, there is a return - maybe.	Too many to write here. However, if I would suggest an example, I probably have built indirectly 100 known names through my relationship with Oli; as we both mature, I'm certain that they will be more direct value, but two links away from (people who have introduced me to people) Oli may have generated me say 1/3 of last years revenue. Another obvious benefit is that I am now established and known in this community, of which I assert Oli is a highly networked player. I am now part of the fabric. I understand it and more-or-less accurately, it knows what I do, therefore is more likely to refer me, if they/it wish/es to.	Sure, again too many times to recall them all, but just this morning I put someone in the loop on two major players in the Bristol area (an area until a week ago I knew no one), as I endeavour to launch our business into the area. That will directly expand their network and mine, as we and I expand our interests. There is something so immediate in making new links and new friendships. People should see links as both immediate and long-term, as well as unearthing friendships and interests in their networks. Networks are in essence human, growing and living organisms, which need continual authentic attention.
DZ	Tony Newton	NOT NEEDED		

EC	MC	Networking is vital to my business life-it is my business	Whenever I meet someone there is a benefit-a new contact, new information and potential introductions to other people. It is not a fast process-it is planting seeds. However every meeting and contact is useful at some point.	Regularly-I introduced to ladies to each other and they set up a company together.
FS	MC	Networking is important to all aspects of my life and to my business life too	Yes. A piece of consultancy was brought to my attention over 18 months ago by a friend. I applied for the work, was interviewed and secured it. Had the friend not intervened, I would not have known about the project let alone ended up working on it.	Yes. I have recently brought together a contact at Northumbrian Water with a theatre company I am involved with and it is highly likely they will now work together for the benefit of both organisations
GM	Tony Newton	NOT NEEDED		
GS	Tony Newton	NOT NEEDED		
HB	SS	Yes - building relationships with a wide range of people and understanding what it is that makes them tick/ their goals etc is essential to what I do. My role is about promoting a corporate agenda and way of doing things - which needs me to get buy in at different levels in the organisation. Knowing who does what in other teams and what	recently set up a policy network within my organisation - the aim being to bring people together working on similar pieces of work/ share skills etc - bringing these people together also allowed me to gather information about policies across the organisation which is info we have not kept in one place to date; which is something I would have had to do by other means if the network had not been established. This info is now being used to support a review of our policy framework	I suppose this happens on a daily basis for me - people ring me with questions about pieces of work/ ideas and I put them in touch with other people I know who might be interested / could answer the question. One example would be bringing two people together from different directorates who were both working on separate bids for a national project. Each unaware they were essentially bidding against each other. I put them in touch and the bids were rationalised.

		is going on for them helps me make connections, see interdependencies, and "sell" what I need to in a way that takes account of others.		
HW	OB	Absolutely vital	This week- have just agreede contract with Tony Blair's Faith Foundqation to manage online programme, entirely down to networking. Person managening programme heard about HW from three discrete people inc. Charles Clark MP and journo Merlin John	Today connected someone setting up a wedding planning business with someone running a small business network.
JE	LB	MISLAID	I could go on and on, but these things are easy to wipe out of memory, until someone or something probes it from there.	
JH	Judith Perle	NOT NEEDED		
JN	Tony Newton	NOT NEEDED		
JN	Tony Newton	NOT NEEDED		
JP	Tony Newton	NOT NEEDED		

JR	LW	Incredibly important. We, NECC, deliver a huge number of networking events throughout the year and constantly strive to improve them. In all my roles in banking, construction and chamber I have been an inveterate networker.	I have many examples. Probably the most obvious was me getting this job. Because I had already networked extensively with all the key people I was the first choice for this role and was given first shout. I did still have to go through the whole selection process, but knowing them all gave me such a head start.	Again, I have many examples. Probably my best was introducing two businessmen who I felt had synergistic businesses. They merged as a direct result and have turned two £3m turnover businesses into one £150m business.
JW	AE	Yes, it's what I do and it's vital.	I got on to very good terms with our Executive Education Department who are also 'business facing'. I have happily shared contacts with them and they have shared with me. We cross promote each other when meeting clients and I have had several successful 'closes' thanks to my own internal networking which got me contacts from Exec Ed.	I recently had a meeting with an academic at the university to discuss working together next summer. He happened to mention he had some work that needed doing immediately and I put one of our MBA alumni in touch with him. I came in to work this morning to find a note from the MBA saying that he has the job! This MBA had been very despondent and was totally delighted with the opportunity and the academic is chuffed to have had his need met so quickly.
LA	CT	MISLAID		
LB	BC	Yes	Yes. (i, When I enter into the biomedical field 22 years ago. ii, buying my own company within the biomedical field. iii, selling my own company within the biomedical field.	Yes. I have had "eyes" for talent people where I have opened up network to their benefit in their career and for their private life.

LC	WK	Absolutely. Without it it would be extremely difficult to achieve and be successful.	I found my role through a networking friend who has known me some 10 years or so; his endorsement opened a door we were told was closed and once the 1st meeting took place things developed and the job was offered. As an aside I took some advice and guidance from my networking friend initially as to where he thought my talents would be best used...I have been in my role 2 and half yrs and won awards this last year for my success.	I can - a charity and someone who wanted to 'do something' that made a difference but through organising a bike ride from Lands end to John O Groats - the result: the charity made £15000 from one bike ride which allowed the first part of a school to be built in Zambia where there is little or no education in the area concerned.
LW	LA	MISLAID		
MC	Tony Newton	NOT NEEDED		
MC	OB	Yes crucial. The majority of my business since start-up in 1991 has been via referral. It's difficult to quantify coaching and its effects so word-of-mouth is vital. I find the social side important as an extrovert often working in isolation. I believe in the 'abundance mentality' of 'Pay it Forward' and networking is part of that philosophy.	I attended an Institute of Careers Guidance conference in late 2008 where I met two individuals who because of the time we were able to spend together during that day have since provided me with two ongoing coaching assignments. These have brought in billings of £12k since the start of these last September. (Note - there's almost twelve months from the time of initial meeting to the resultant work so the first networking meeting is just the beginning of the relationship building process.)	I introduced Etta Cohen, who runs Forward Ladies networking group, to a colleague coach, Ruth, when she had been let down for a life coaching training session for twelve of her group. She rang to ask me to step in but I had a prior booking. The session was already booked for the following Monday - this was Wednesday evening - and the individuals already promised attendance on a life changing day event. I rang around several of my network - and learnt a lot about their preferred ways of working as several of them were not willing to step into something that they had not created the programme for at such short notice. Ruth agreed to step in and the group - and Etta - were delighted. Etta and Ruth are now connected and my reputation with Etta and Forward Ladies enhanced.

MC	JR	Yes, I think it's crucial.	When I took up role of CEO with an organisation which was failing, and unloved by its stakeholders, I knew the majority of them, they trusted me and they were prepared to give the organisation another chance.	On several occasions I have identified and introduced individuals as potential Board members.
MR	PF	It is very important to my business life.	I am working as a account manager in a small asset management company called Aurator Asset management Ltd. I have got all my clients through my network, so I would say it is the most important asset I have had to build up this business since 1999.	I have introduced to gentleman with each other and they build up a succesful company called Sijoitustalo Finlandia in Tampere. They have thousands of clients, and they sell all kind of insurances. All I got was a nice sailing book as a present, not bad!
NW	Judith Perle	NOT NEEDED		
OB	CS	It is incredibly important to my business life. It allows me to keep in touch with people, to attract opportunities, to help others and to enjoy life.	I launched Make Your Mark with a Tenner within 7 weeks of having the initial idea. <a href="http://www.makeyourmark.org.uk/tenner">www.makeyourmark.org.uk/tenner</a> . This would never had been possible was I not in touch with a strong network including lawyers, accountants, mentors, introducers to funding, partners and journalists.	I make several introductions each week. I recently introduced Sport England to Channel 4, who are now partnering on a major initiative. This month I introduced Michelle Dewberry to a potential mentor. Just today, I have committed to connecting a talented marketeer with a successful entrepreneur.

OB	CD	Invaluable to my business life - I have secured all my roles since leaving the public sector in 1988, by networking. Also, as account manager for many clients - I understand the importance of keeping in touch.	When I left my role in Hudson in October 2005. I took a month off and had a little R&R before getting my networking list together. I put the contacts in alphabetical order and started with the As. I contacted Henry Armstrong who worked at Chiumento and took him for a Christmas drink. The rest is history....	Last week my colleague in the Talent team had to write a proposal to pitch for a piece of business. There was an element to it that she did not have the expertise to write and she did not have a budget to pay one of the associates to write it for her. I introduced her to one of my network who I knew had written this sort of stuff before. I contacted her and explained our predicament. Because of our relationship that went back many years - she agreed to liaise with my colleague and help her write the proposal, and go along to any subsequent presentations, at no fee but with the proviso that if we won it she would get to be the lead deliverer at a preferential rate. My colleague has written the proposal and said she had also learned a lot from my contact. We are now hoping for a successful outcome.
PR	SH	Yes. Training & Development is a people business, and people buy people not products so it's vital that there is a 'face' to a business and the only way you can build a two-way understanding is through actually meeting people and finding out about them.	A current example would be a client who has just been made redundant. She has always been my point of contact in the organisation after I was brought in by her original boss [who knew me through work I'd done in an organisation he'd previously worked for !] When he moved on I made a point on contacting the new Director and have sent her magazine articles I thought would be of interest from time to time. With my client being made redundant I'm vulnerable, but because of the relationship I'd built with the new Director she and I are meeting next week to talk about work for 2009.	Happens all the time ! A specific one just before Christmas was someone who came on a workshop I ran in an organisation and is now setting up her own business. We met for tea so I could give her some pointers and introduced her to my accountant a win for both of them. Most of what I do under this heading is altruistic but I believe in karma/what goes around/pay it forward/emotional banking etc. and people do often remember someone who has done them a favour.

PF	Judith Perle	<p>Yes, definitely yes. I'm a firm believer in building communities and bridging between communities. Although I think the word "community" is a better description of the rather tight social bonds between the members of a social entity, I can go with network as well. In my view, however, networking is more "loose ties" than community. What I believe in is stronger ties. To my professional/business life, the networks are really important, as I am and have been identified by others as a node between different types of professional networks. I don't consider myself to build networks instrumentally for a purpose, but it is rather just a natural evolution, an emergent process. In other words, when I meet people, I don't primarily think of how this person could advance my</p>	<p>When I saw this question a week ago, my reaction was "there are so many". Here is a recent one: Last autumn I was invited by a person in my network to a seminar in Italy where I got to know an academic from Ireland. At the first three encounters (it was a whole week) we explored all sorts of things, but when she discovered what I was doing professionally (in this case, a certain kind of pedagogy in executive education), she invited me to Ireland for an assignment. It will take place in May, and that will be the first time I'm doing that sort of assignment in an English-speaking country, which is good. In the same seminar, an acquaintance of mine introduced me to an Italian guy, whom I invited to come to Helsinki. Last week he asked me if I would be interested in a board membership in a professional organization in Italy. As I don't have that many friends and acquaintances in Italy, I gladly answered "yes".</p>	<p>I consciously try to do that all the time. Very recently an eMBA alumni (a former student of mine, who's more like a friend now) asked me if I had any good candidates for a managerial job he had in his company. I immediately thought about an excellent candidate, the former CEO of an SME in which I was/am a board member. (btw, he asked me to become a board member, since we used to work together in an ICT company) He was without a job, but more importantly he shared all of the key characteristics important for this new task. And the eMBA alumni as well as the former CEO were both ex-professional athletes (ok, one was a coach, but anyway). So I thought it was a perfect match. And they are now working together. I think there is some kind of golden rule: the more you give, the more you get. Or as my colleague, Professor Karl-Erik Sveiby, says "knowledge shared is knowledge doubled".</p>
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		objectives or what instrumental use I could have for this person. It's about the joy of knowing the person. Or if it's about the instrumental value, it's the other way around: what good could I offer this person given his/her strengths and needs.		
PF	SB	MISLAID	Yes very important. Face to face networking much more so than online. I have found networking from introductions from existing contacts, professional societies and conferences to be the most useful. Much more so than specific networking events or groups.	I met Peter and Richard from Achieving the Difference at Business West lecture about 4 years ago and they became important clients and colleagues and through them I met other clients. Ironically we were moaning that you never meet anyone important at these things :)

PM	Tony Newton	Networking is extremely important. I do it in an unstructured way, but make sure I keep in touch with people I like on a semi-regular basis...I could be much better at this than I am. I don't attempt to have huge networks as I wouldn't make the reqd effort to keep them all going - so small networks and with people with whom I have a rapport.	Almost all my consultancy business has come from previous business contacts with whom I have made a conscious effort to keep in touch. My 'big job' - which I got btw - came through a networking contact. Was invited by them to a conference on innovation where the proposition to head up innovation strategy in the east of England was mooted.	Yes I like to do this - especially when both other parties are in my network...though I would also do if only one was. If I take this innovation job (probably will) then I will introduce one of my Kamelian colleagues to the chairman of the high power laser co. as a prospective replacement to me. I made a number of introductions to my Ocuity colleagues for consultancy work...though if the work was suitable for me I would probably hang on to it - I'm not that altruistic!. In fact I'm not altruistic at all as any introductions of this nature are probably (subconsciously) designed to encourage reciprocal behaviour.
PR	Tony Newton	NOT NEEDED		
PR	PF	Yes	Yes. Met a tech company start-up CEO at a breakfast network whose offshore financial services client was looking for marketing direction. He made the introduction and I delivered about £80k of business plus two working trips to the Bahamas.	Yes. Met a marketing director from a global professional services firm in the City, at a networking evening. Recognising potential for internal comms, I introduced him to my colleague who runs a comms agency. 9 months later she received a call out of the blue from the same firm who remembered the introduction, kept her details, and now it's led to website content and client magazine work with, hopefully, more to come.

PR	DB	Yes particularly for trying to meet people out of my immediate current circle	Yes I went to a local lunch event and sat next to someone and we started talking about evaluation and learning from projects. That conversation led to me getting two new contracts	Yes I belong to an informal international network of women consultants and I often pass on work that I cannot or don't want to do .The last occasion was late last year when I was asked to do some work in Nepal and I couldn't do it ..well I thought someone was better suited to do it than I was. She is based in India and did the assignment
RB	Tony Newton	NOT NEEDED		
SB	Judith Perle	NOT NEEDED		
SB	LB	Yes, very much so.	Our new CEO is a direct result of networking.	By connecting up non-competitive Pharmacompanies, I have reduced their costs and widened their possibilities to promote their products via educational courses.
SG	SL	Essential.	the most recent is a high finance contact whom I befriended five years previously. There were many potential opportunities between us, but none that came to fruition until late 2008. I was asked online by a total stranger if I could introduce them to investors for their new film production. 12 hours later my high-finance contact informed me that he has become an associate of an Eire based firm which specialised in raising EU Social Fund finance for Film production in Eire. I then made the pertinent introductions and gained commercial benefit.	Multiple occasions. One way is that I run my own monthly drinks evenings, in which I invite people who are well known by me and I see should be of commercial benefit to one-another. I expect to benefit by association, not directly in any financial returns. The key is 'positioning'... being the person who will be recommended into opportunities/ventures/projects/events by high-flying professionals who otherwise would not have a reason to consider involvement with me.
SH	Tony Newton	NOT NEEDED		

SH	DB	yes essential, especially running a small enterprise which means I don't have institutionalised networks and commercial channels. You need capable networks and an investment in networking to help generate opportunities and strategies. My answer also perhaps reflects that my firm is into business to business services – we have no tangible product, no shop front and dependable footfall. We are also a considered rather than a casual purchase. This is not the same for all SME's	briefly, I dropped a contact of mine a personal message in response to one of his tweets. He emailed me back asking if I'd be happy to run a programme in Hong Kong, as his usual provider doesn't do long haul travel. First job I've done for him for five years.	I believe all networking is self interested and the issue is about the degree to which personal/self interest dominates. Recent occasion, a pal and marketing professor phones the other day and talks about a creative arts charity he's on the board of saying the Market Research Manager was going off on mat leave for a year and he was looking for either an interim on a 12 month contract or bought in consultancy support over the 12 months to guide the rest of the organisation's market research team. My firm could have easily supplied the latter but we explained that an interim was probably the more cost effective option. I've put one of my former clients who had finished a 24 months contract on 31st March (a marketing person with creative arts experience) in touch with him, I discussed the request with my partner (who also knows the marketing professor) and she's spoken with two people in her network who have good credentials for an interim post. No fee for us, but as I said I believe all networking, even in situations like this, involves self interest.
SL	Judith Perle	NOT NEEDED		
SL	CC	NOT NEEDED		
SS	Tony Newton	NOT NEEDED		

SS	Tony Newton	NOT NEEDED		
SS	CC	<p>In reality, my entire business life is based on networking and more importantly building effective relationships stemming from that networking - in managing the CSP, Cumbria Strategic Partnership, (the Local Strategic Partnership -LSP- for Cumbria if you are familiar with local gov speak) my job is to encourage increased collaboration between partners in Cumbria to deliver what are increasingly being recognised as being shared outcomes</p>	<p>There are many - some of which are social like being invited to the Chamber of Commerce Excellence Awards as the guest of Amey - but are also integral to work.- this would include the fact that I am constantly exposed to and work with more senior officers and Members who tend to be the partners on the partnership meaning that I am involved in and have an understanding of high level issues being debated in Cumbria, firsthand. I also became involved with the national network of LSP coordinators and subsequently became Joint Chair of LSP Futures. Specifically this has meant that engagement at the national level led me to being on the Steering Group for a major Audit Commission study. Another example would be through my coordinating role in a county wide initiative designed to improve partnership working in Cumbria, called Calling Cumbria and Counting Cumbria, I was subsequently invited to dinner at the Cabinet Office at the invitation of Liam Byrne MP as part of an evening designed to have some insight into local gov reform. All of these examples are about</p>	<p>This last is almost a daily occurrence since I often say that I am not necessarily an expert in anything but generally know someone who is! Many people phone the CSP office to ask for information about who does what in Cumbria, or for further information. Most recently at a Focus on --Raising Aspirations event, I introduced a primary school teacher from Barrow who has been doing innovative work on the primary school curriculum and engaging pupils with businesses in Barrow with a colleague who has been working with another school in West Cumbria to improve self esteem and raise expectations with a group of pupils in a school there. The thinking there was that there was scope to use the practical experience of both these projects to influence the future national school curriculum.</p>

			networking providing personal and organisational opportunities re raised profile and influences.	
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SS	CC	<p>In reality, my entire business life is based on networking and more importantly building effective relationships stemming from that networking - in managing the CSP, Cumbria Strategic Partnership, (the Local Strategic Partnership -LSP- for Cumbria if you are familiar with local gov speak) my job is to encourage increased collaboration between partners in Cumbria to deliver what are increasingly being recognised as being shared outcomes</p>	<p>There are many - some of which are social like being invited to the Chamber of Commerce Excellence Awards as the guest of Amey - but are also integral to work.- this would include the fact that I am constantly exposed to and work with more senior officers and Members who tend to be the partners on the partnership meaning that I am involved in and have an understanding of high level issues being debated in Cumbria, firsthand. I also became involved with the national network of LSP coordinators and subsequently became Joint Chair of LSP Futures. Specifically this has meant that engagement at the national level led me to being on the Steering Group for a major Audit Commission study. Another example would be through my coordinating role in a county wide initiative designed to improve partnership working in Cumbria, called Calling Cumbria and Counting Cumbria, I was subsequently invited to dinner at the Cabinet Office at the invitation of Liam Byrne MP as part of an evening designed to have some insight into local gov reform. All of these examples are about networking providing personal and organisational opportunities re raised profile and influences.</p>	<p>This last is almost a daily occurrence since I often say that I am not necessarily an expert in anything but generally know someone who is! Many people phone the CSP office to ask for information about who does what in Cumbria, or for further information. Most recently at a Focus on --Raising Aspirations event, I introduced a primary school teacher from Barrow who has been doing innovative work on the primary school curriculum and engaging pupils with businesses in Barrow with a colleague who has been working with another school in West Cumbria to improve self esteem and raise expectations with a group of pupils in a school there. The thinking there was that there was scope to use the practical experience of both these projects to influence the future national school curriculum.</p>
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TM	GM	ESSENTIAL	I SET UP A NETWORK CALLED EXCENTURE (EX ACCENTURE PEOPLE); TODAY ONE OF THE NETWORK CAME TO ME TO ASK FOR HELP FINDING 3 CONSULTANTS	I INTRODUCED A STUDENT TO FRIENDS OF MINE IN THE CABINET OFFICE AND HE GOT A SUMMER JOB. I INTRODUCED SOMEONE TO A FRIEND IN A CONSULTING FOR CAREER ADVICE; THEY HIRED HER
WK	MC	<p>Networking is building relationships through communication. If you don't network it means you do your work in a vacuum and then go home. Networking is life itself , we all do it all day every day. It's not just standing at a cocktail party, drink in hand and making small talk!!</p> <p>Direct answer to the question. If you want to get become visible become successful you have to network</p>	Last Friday I attended an event and within 5 minutes of meeting Bronwyn she said what do you do? I told her and she said she had a team who needed some help with networking. I will be calling her next Tuesday to follow up and hope it will turn into business. I always create some opportunity when I attend business events even if it just gaining new market intelligence or new knowledge	I introduced my friend Louise to a bank as she wanted to work there. By way of thanks once she was in she recommended me to her boss and last year we presented about 10 times. I introduced my office cleaning company at an event to someone who had just moved into new premises. They have now been doing business for about 2 years now.

## APPENDIX S: THIRD ITERATION INVENTORY

Item	Question	Scoring	
MAI1	I'm not in touch with many people from my past		neg
MAI2	I'm not good at staying in touch with people		neg
MAI3	I don't make time to keep in touch with people		neg
MAI4	It's important to stay connected with old colleagues and workmates	pos	
MAI6	I make a point of staying in occasional touch with people I haven't worked with for some time	pos	
CMA2	If someone suggests I call them back in three months, I make a diary note to do so to ensure it happens	pos	
CMA3	If I promise someone a referral or recommendation, I make sure that I deliver without the need to be reminded	pos	
CMA4	I have a tendency to forget to provide promised information until reminded		neg
PER1	If someone doesn't return my call, they're not interested in talking to me		neg
PER2	If someone doesn't respond to my email request for information, they're not prepared to offer it		neg
PER3	If someone cancels a meeting at the last minute, I assume they didn't really want to meet		neg
LOC1	In your business career, you make your own luck	pos	
LOC2	Other people have more influence over my career than I do		neg
LOC3	I don't expect to fulfil my major life ambitions		neg
ALT2	I think 'what's in it for me' before offering to help someone		neg
ALT3	I am willing to help someone even if I don't see something immediate in it for me	pos	
ALT4	It's important that colleagues see me as a helpful person	pos	
ALT8	I get irritated when I receive a request for help from an acquaintance	pos	
HLP4	Requesting help is a sign of weakness		neg
HLP5	Asking someone for a referral is demeaning to my own reputation		neg
HLP7	Asking for help makes me look like I don't know how to do my job		neg
RCL1	I remember what people tell me about themselves	pos	
RCL2	I don't remember much about the small talk I have at meetings or events		neg
RCL3	I'm good at mentally filing away snippets of conversation for the next time I meet that person	pos	
RCL4	I'm good at noting what people tell me about their hobbies and interests and using that on a subsequent occasion	pos	
RCL5	It's useful to be able to recall what someone told you about themselves weeks or months previously	pos	
RCL7	The things that people tell me about themselves tend to 'go in one ear and out the other'		neg
ENG1	I don't find it easy to make myself at home with a new group of people		neg
ENG2	I'm only comfortable with people I know well		neg
ENG3	At a party, I actively seek out people I don't know to chat to	pos	
ENG4	I engage strangers in conversation	pos	
PUR1	I don't like having meetings with business contacts unless there's a specific agenda	pos	
PUR2	I don't like conversations that don't have a clear purpose and / or direction	pos	
PUR3	Before arranging a meeting I have a clear checklist of what I am to achieve from it	pos	

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