

# **Self-perceptions of intelligence and their effect on sales advisors' performance**

Competitive Paper

Linda D Peters, Nottingham University Business School, UK  
Nick Lee, Loughborough University School of Business and Economics, UK  
Seth White, Virgin Media Corporate Sales, UK

## **ABSTRACT**

The question of nature vs. nurture appears in much of the sociological literature as the problem of agency; in which personal beliefs regarding identity, and the social practices individuals enact, are intimately linked. One particular facet of identity is the belief an individual holds regarding the nature of their intelligence. This study focuses on two distinct groups of people when it came to their self-perceptions regarding intelligence. On the one hand, there were those who believed they were born with a fixed amount of intelligence that cannot be changed. On the other hand, there were those who deem their intellect to be malleable, variable, and that it can be stretched and developed. This paper will explore the difference between these two groups and how they fare against each other within the context of sales force performance. Thus, the purpose of the research is to determine if holding a fixed vs. a malleable mind-set influences an individual's sales performance. Within the context of sales performance, this question is significant, as it suggests that those with one view of intelligence could outperform those of the other view on a regular basis over extended periods of time. Gathering data from 75 sales force employees at a large multinational telecoms firm; we measured their self-perception of intelligence and compared this with their sales performance data. There proved to be a strong correlation between their self-perception and their consequent performance, with those holding a malleable perception of their intelligence significantly exceeding their performance targets.

**Keywords:** Intelligence, Sales Performance, Attribution Theory, Cognitive Consistency Theory

# Self-perceptions of intelligence and their effect on sales advisors' performance

## INTRODUCTION

How intelligent is a toddler? To most it is a ridiculous question. The idea of labelling a toddler 'smart' or 'intelligent' would render it absurd. Most would agree that the question is unfair. The child has not had the opportunity to grow and learn basic social, literacy and numerical skills. But ask the same question some years later and the answers will have changed; opinions such as "Katie is a real intellectual" or "Michael was never a natural mathematician" emerge. By the age of six or seven a child will start to realise that he or she is now part of the 'smart' or 'not so smart' group. These early experiences have a drastic effect on how individuals end up approaching their own life-long learning (Lenzil et al. 2014).

In relation to learning in interorganisational networks, the approach that an individual takes can shape network development. As Welch and Wilkinson (2002:27) argue, "... the model of relationships and networks proposed by the IMP group in terms of actors, activities and resources (AAR), which forms the basis of much IMP research, needs to be extended to incorporate a fourth dimension of relations and networks, namely that of ideas or schemas. These schemas are the way managers make sense of their world and the interactions taking place with other organizations and represent a different kind of dynamical force shaping relationship and network development." In this paper we propose to examine whether two differing approaches to personal learning (i.e. two differing schemas) held by sales personnel influence their sales performance. At the heart of this is the question, are higher performing sales personnel made, or are they born?

This question of nature vs. nurture appears in much of the sociological literature, and in particular in the literature relating to structuration theory (Giddens, 1984; Archer, 1995, Parker, 2000) as the problem of agency. On the one hand, are our human properties and powers (beyond our biological constitution) the gift of Society, are we as we are because this is what society makes us? Alternatively, can we reduce agency to the rationality of the individual, where society is what we have made it?

In addressing the problem of agency, structurationists view agency not as something simply contained within the individual as an intension to act, but as more closely associated with the flow of an individuals' actions and interactions. "The properties and powers of the human being are neither seen as *pre-given*, nor as *socially appropriated*, but rather these are emergent from our relations with our environment" (Archer, 2000:87). Ontologically, the structurationist definition of agency as the flow of individuals' actions and interactions lends us a clearer notion of how social systems operate. This is because fundamentally 'theories of practices' which form the basis of the work of social theorists such as Giddens and Bourdieu (Schatzki, 2003) views identity as that which something (or someone) is understood to be. As Schatzki states, these understandings are carried in social practices and find their expression in the doings and saying that compose such practices, thus meaning itself is carried by these established social practices. In promoting the primacy of practice, critical realists such as Archer (2000) argue that our continuous sense of self emerges from our practical activity and that self-consciousness, and our humanity, is an emergent property that derives from our embodied practice in the world (Archer, 2000:7 and 50). Thus identity is both a personal

discovery and a socially embedded experience, each of which informs the other aspect of identity formation.

How does identity formation then relate to self-perceptions of intelligence? Research by Dweck et al. (1995) discovered two distinct groups of people when it came to their self-perceptions regarding intelligence. On the one hand, there were those who believed they were born with a fixed amount of intelligence that cannot be changed. On the other hand, there were those who deem their intellect to be malleable, variable, and that it can be stretched and developed. This paper will explore the difference between these two groups and how they fare against each other within a previously unexplored context – that of sales forces performance. As we have noted in our discussion of the problem of agency, the relation to personal beliefs regarding identity and the social practices they enact are intimately linked. Thus, the purpose of the research is to determine if a fixed vs. malleable mind-set influences an individual's sales performance. The paper will begin with a review of academic literature on theories of intelligence and identity, and their relationship to performance. A methodology section will then discuss the research design, strategies and methods. We then report the findings. Finally, conclusions will be summarised that offer implications for managerial practice, and aspects of the research that may be considered in further research.

## **SELF-THEORIES OF INTELLIGENCE AND THE EMERGENCE OF IDENTITY**

Dweck (1999) maintains that people develop beliefs that organise their world and give meaning to their experiences. The emergence of our social selves is something which happens at the interface of structure and agency, which is the interplay between personal emergent properties, social emergent properties, and cultural emergent properties (Archer, 2000). She maintains that while our continuous sense of self is ontologically inviolable, our personal and social identities are epistemologically vulnerable, and that both hinge on our ultimate concerns. She maintains that there is a lifelong account that has to deal with the dialectical relations between our social identity and our personal identity, and that this dialectic monitors our subsequent commitments to and doings within society (Archer, 2000:260).

Archer (1995) stresses that agency is an under-theorized notion in mainstream structuration theory, and proposes a stratified model of people as persons, agents, and actors. A *person* is the human being themselves, and every person has a personal identity which allows them to be 'someone who experiences'. The notion of people as *agents*, on the other hand, considers not only the person, but also their relationship to various social distributions. On the one hand, there is the development of the individual as an object of society, where we make out our identity in relation to the confines of the existing socio-cultural structures. On the other hand there is also the development, through processes of socialisation, of corporate agency in which together individuals seek to strategically transform such structures through the elaboration of institutional role structures and the development of new roles. Finally, people as social *actors* are considered in relation to their particular role or position within a social context. As actors we are able to acquire social identity by investing ourselves in a role and personifying it in a particular way. Social identity remains, however, a part of the broader concept of personal identity, as "... it is ultimately the person who determines where the self-worth, that he or she derives from their social roles, stand in relation to their other commitments in the world as a whole. (Archer, 2000:12).

What stems from this process of personal and social identity formation is a commitment, on the part of the individual, to their ultimate concerns. “What this subject is doing is conducting an endless assessment of whether what it once devoted itself to as its ultimate concern(s) are still worthy of this devotion, and whether the price which was once paid for subordinating an accommodating other concerns is still one with which the subject can live. If the answer is affirmative, then we have a person who has determined to marshal his or her personal powers into a genuine act of commitment.” (Archer, 2000:297)

At the level of the person, Dweck (1999) identifies two implicit mind-sets (or theories) for understanding intelligence: *fixed* and *malleable*. Those possessing a fixed mind-set view intelligence as a fixed trait that cannot be changed. Those with a malleable mind-set do not see intelligence as innate but rather something that can be cultivated and developed through learning, experience and exposure to different activities. On the one hand, Mueller and Dweck (1998) cite evidence that despite efforts to change, individuals (e.g. salespeople) may not feel capable of changing their view of intelligence and ability in order to improve their circumstances, especially those of a fixed mind-set. Robins et al. (2002) state that these mind-sets do not seem to change over time and circumstance. On the other hand, Dweck (1999) offers strong evidence that we can train mind-sets, and her work has repeatedly shown that we can train subjects into adopting a more malleable mind-set (e.g. Blackwell, Trzesniewski and Dweck, 2007). This raises a question; is one mind-set more or less beneficial than the other? Within the context of sales performance, this question is significant, as it suggests that those with one view of intelligence could outperform those of the other view on a regular basis over extended periods of time.

Mueller and Dweck (1998) discovered that those with a fixed mind-set define intelligence as a person’s inherent capacity or potential. They therefore often rule out effort and motivation as part of intellect or as something that could enhance it. Research suggests that those with a fixed mind-set will not only pass up valuable learning opportunities but will voluntarily disengage from tasks that pose obstacles (Hong, Chiu, Dweck, Lin and Wan, 1999). Thus the actions of a salesperson as part of a social collective (i.e. the organisation) may be at odds with the role expectations of their job. They do not personify their role in the way the company expected. This means that a fixed mind-set could well be a form of psychological cancer that burdens organizations that rely heavily on their frontline sales forces.

Those with a malleable mind-set, on the other hand, more often defined intelligence as a person’s skills and knowledge, a definition which points towards something that can be changed or developed. Thus, they are better able to form commitments through the dialectical relations between their social identity and their personal identity that support organisational expectations and objectives in terms of learning and performance. Dweck (1999) found that these theories have proven significant when applied to formal education and classroom learning, as anxieties surrounding how much intelligence one possesses and how to avoid revealing limited knowledge begins to surface when intelligence is viewed as a limited trait.

Two theoretical approaches to understanding cognition and behaviour are relevant to understanding Dweck’s conceptualisation of intelligence and Archer’s theory of identity formation; attribution theory and cognitive consistency theory. Attribution theory refers to the need to explain the world, both to ourselves and to other people, and attributing *cause* to the events around us (Kelley, 1967). A greater sense of control is achieved when events around us appear to have a cause and effect relationship. Scholars such as Weiner (1992) emphasize

the idea that learners are strongly motivated by the satisfying outcome of being able to feel good about themselves. Attribution theory incorporates cognitive theory (Demetriou, 1998) and self-efficacy theory (Bandura, 1977) in the sense that it emphasizes that learners' current self-perceptions will influence the ways in which they will interpret the success or failure of their current efforts and hence their future tendency to perform these same behaviours.

It is important to note the key assumption of attribution theory; that people will interpret their environment in such a way as to maintain a positive self-image (Weiner, 1992). “Generically, the most important of our social concerns is our self-worth which is vested in certain projects (career, family, community, club or church) whose success or failure we take as vindicating our worth or damaging it.” (Archer, 2000:219).

Furthermore, they will attribute their successes or failures to factors that will enable them to feel as good as possible about themselves. When someone else has erred we will often use internal attribution - stating it is due to internal personality factors (Weiner, 1985, 1986). However, when we ourselves have erred we will be more prone to use external attribution and see the causes as situational factors that are out of our control rather than blaming ourselves (Weiner, 1985, 1986). Thus, sales advisors will attribute successes to their own internal capabilities such as hard work, and the successes of rivals to external factors such as luck (Baumgardner, Heppner, and Arkin, 1986; Baron and Byrne, 1987). Attribution theory allows us to consider that those salespeople who view intelligence and sales ability as inborn (or fixed) are attributing their ability to factors that are out of their control such as predetermined ‘smartness’ or ‘cleverness’. In light of this, Dweck’s self-theory of intelligence and achievement raises questions regarding how retail sales advisors attribute their successes and failures, and how their perceptions or attributions for success and failure determine the amount of effort they expend to achieve future performance.

Cognitive consistency theory can also help us understand the dynamics of Dweck’s (1999) self-theories, as it focuses on an individual’s thought process as a crucial determinant of emotions and behaviour, the basic idea being that people prefer harmony, or consistency, in their thoughts and actions (Simon and Holyoak, 2002). Its corollary, cognitive dissonance theory (Festinger, 1957), focuses on the discomfort caused by holding conflicting cognitions. The consequences of one’s thoughts and actions may lead to a certain amount of dissonance after a decision is made, and the closer the alternative choices are in their attractiveness the stronger the cognitive dissonance. This has consequences for fixed mind-set sales advisors who will find it difficult to cope with setbacks and challenges (Dweck, 1975), and thus they may be less likely to put themselves into situations and make decisions that may require some level of dissonance (i.e. being challenged to try and improve). How would a sales advisor with a fixed mind-set towards their intelligence respond to being told to do something (i.e. ‘improve your performance’) which conflicts with their own understanding of intellect and ability as a fixed trait? According to consistency theory, any occurrence of inconsistent thoughts motivates us to change our views to restore consistency. Thus the fixed mind-set sales advisor is likely to avoid the discomfort and the threat to self-esteem that results in stress and dissonance by (perhaps subconsciously) rejecting new information that would otherwise help them to learn. While demanding jobs have been proven to generate *good stress* (eustress) that can result in higher performance (Lepine, Podsakoff, and Lepine 2005), it can be argued that someone with a fixed mind-set would not encounter stress as a positive result of effort, and will only consider it a result of their natural incompetence (Dweck, 1999), thus forcing a vicious cycle of underperformance and personify their role ineffectually.

A fixed mind-set endorses the view that in order to achieve, intelligent individuals do not need to try hard, as they are naturally gifted. Therefore the greater the individual effort required for a task, the lower they view their ability to perform (Dweck and Leggett, 1988). Their sense of ability is constantly challenged every time a task or in this case, a sale, requires effort (Dweck, 1999). In an attempt to avoid failure those with a fixed mind-set may withhold their effort from sales targets, self-handicapping themselves in the process (Berglas and Jones, 1978). A vicious cycle then occurs; as soon as they stumble upon a successful sale or two without any effort on their part, their limited view of intelligence is validated. With effort withheld, the salesperson with a fixed mind-set will not be in control of how he/she performs and therefore sabotages the required success of long-term goals, such as those required within sales, for the sake of short-term judgements (Zuckerman, Kieffer, and Knee, 1998). Self-motivation, persistence, and self-confidence are key to sales worker's success (Torpey, 2011) and it would be difficult to maintain such attributes if "*every time a task requires effort, your intelligence is called into question*" (Dweck, 1999: 41). In stark contrast those with a malleable mind-set tend to be attracted to learning goals and display a mastery-orientated view of performing (Robins et al., 2002). Salespeople working within a malleable mind-set should see "*no conflict about exerting the effort that a challenging task requires*" (Dweck, 1999: 41).

## **SELF-THEORIES OF INTELLIGENCE AND PERFORMANCE**

As stated earlier, individuals possess either one of two fundamental mind-sets: fixed or malleable. Dweck (1999) asserts that fixed beliefs can lead us to make more rigid judgements, which then sometimes blind us to our own capabilities and limit the paths we then pursue. Alternatively, Hayashi (2001) noted that individuals with a malleable mind-set will view the challenge of selling as one of many valuable learning opportunities which they can learn and adapt to, developing the necessary determination and intuitive capacity to achieve desired results. On the other hand, should they prove to hold the view that intelligence is fixed (i.e. they see their intelligence as a personal trait), their sales results will reinforce the notion that they were born with a predetermined intellect, thus *reducing* their work ethic and intuitiveness, resulting in low(er) sales performance (Hayashi, 2001).

Berglas and Jones (1978) found that in an attempt to avoid failure, those with a fixed mind-set may withhold their efforts. In a similar vein, Hong et al. (1999) suggest that those with a fixed mind-set will voluntarily disengage from tasks that pose obstacles, and anything that appears to be questioning or challenging their ability is seen as a threat. This supports Dweck's (1999) original findings in which those that appear to have a fixed mind-set view effort as an ineffective means to achievement. Alternatively, Dweck (1999) observed that those with a malleable mind-set see little or no conflict in regards to the amount of effort that a challenging task requires. In fact it is not necessarily the results of their efforts that motivate them, but the desire to grow, learn and improve. Those with a malleable mind-set are more likely to choose a challenging task rather than an easy one that allows them to appear intelligent (Dweck, 1999). By choosing tasks that are challenging they are not focusing on the temporary result of recognition, but rather on developing themselves so that they can better serve themselves or others in a more grand and important scheme. Thus, those with a fixed mind-set would demonstrate more limited effort than those who with a malleable mind-set, and thus their sales performance would be less.

Dweck (1999) indicates that greater or superior performance is a result of an individuals' mind-set. Is there a significance difference between those sales advisors who hold a malleable vs. a fixed mind-set when it comes to their actual performance within retail telecommunications? In light of Dweck's prior research findings in relation to education, we propose that:

- H1: A salesperson who conforms to a fixed conceptualisation of intelligence will demonstrate lower sales performance than a salesperson that conforms to a malleable conceptualisation of intelligence.

## METHODOLOGY

In our research design we take a critical realist (Bhaskar, [1975] 2008) approach. A distinguishing hallmark of critical realist thinking is to depart from the dualism of constructivism, in which the physical world of causes is separated from the mental world of thoughts (Bhaskar in Harré and Bhaskar, 2001). Critical realists recognise that multiple levels and modes of engagement exist between the knower and the known (Norris, 2007). As such, it layers ontology into the levels of the real (the mechanisms that generate phenomena at the level of the actual), the actual (the events that occur) and the empirical (our experience of those events: Bhaskar, 2008). Therefore, in order to try and understand how self-perceptions of intelligence relate to sales performance (the real), we set out to collect two different but related types of data, empirical data and actual data.

First, we collected empirical data from self-completion questionnaires designed to measure their self-theories of intelligence (i.e. their perception of, or experience of, intelligence). We used the measure of self-theory presented in Dweck (1999), and the items for this are presented in Appendix 1. As Dweck (1999: 176) suggests, we only used the 'fixed entity' items. An exploratory factor analysis of the items returned a one-factor solution explaining 78.1% of the variance in the item set, and a Cronbach's alpha of 0.9. Higher scores on the measure indicate a stronger entity (i.e. fixed) theory of intelligence. Following the work of Dweck et al. (1995), we used the measure to classify respondents into 'fixed intelligence' (average score on the items 4.0 or above) and 'malleable intelligence' (average score on the items 3.0 or below). Respondents who fell between these scores were classified as 'no clear theory'. In addition, the questionnaire collected standard demographic information such as age, sex, ethnicity, time working with the company, time working within sales, and contracted hours.

Second, we collected actual (or event) data in the form of historic sales performance data for each respondent. Due to the sensitive nature of the data and to avoid bias in self-reporting, this data was collected from the regional manager who had access to the firm's database of sales activity. It consisted of eight key performance indicators (KPI's); new contracts, upgraded contracts, pay-as-you-go (PAYG), business, mobile broadband, home broadband, accessory strike rate, and insurance strike rate. This information was combined by the regional manager into a single performance score, which was a percentage of achievement of KPI targets. This performance score ranged from a low of 42% to a high of 176% of target (mean = 90.57%).

This dataset provides a unique opportunity to relate empirical and actual types of data and allows us to gain insight into not only the perceptions of the salesperson, but their actual

performance against stated corporate sales targets for that period. When combining the questionnaire and objective data, our sample consisted of 75 sales advisors, assistant managers and managers within one region of a large telecommunications firm. Demographic data is presented in Table 1. In relation to this, the sample was relatively evenly split in terms of gender (42 males, 33 females), and well educated (21 graduates, 28 A-level completion, 21 GCSE or equivalent and only 5 no education achievement). The sample was predominantly ‘White British’ however (67 of the 75) which may introduce sample bias.

**Table 1: Demographics**

	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev.</b>
Age	18	54	26.7	7.71
Time working in sales (yrs)	0	31	5.85	5.46
Time working with Firm (yrs)	0	13	3.85	3.4
Contracted hours per week	12	40	30.5	10.67
Performance score	42	176	90.57	23.94

## FINDINGS

After classification of self-theories, we found that there were 58 salespeople who were categorised as having a ‘malleable’ self-theory of intelligence, 10 who had a ‘fixed’ theory, and 7 who could not be classified. The amount of unclassified salespeople is broadly consistent with other work which suggests around 15% of respondents fall into this group. However, we were surprised to see the large proportion of salespeople that were classified as having ‘malleable’ self-theories. Generally, prior work has found a broadly equal split in multiple different populations (Dweck, 1999). However, little work has been conducted in the sales environment we are studying here. Certainly, more work needs to be done in this area to investigate whether there is some systematic difference in this particular population when compared to other professional and general population groups.

In order to test our hypothesis, we used a factorial ANCOVA procedure, run as a General Linear Model in IBM SPSS 21. We first filtered out the 7 salespeople without a clear theory of intelligence. Using the remaining 68 cases, we built the model using Performance as the dependent variable, and self-theory (fixed or malleable) as the independent. Using factorial ANCOVA allowed us to investigate the effect of Gender on performance, and the interaction between self-theory and gender. Further, we were able to control for the possible influence of demographic factors (age, time spent working in sales, time spent with the firm, contracted hours per week, and educational achievement) on performance. Table 2 shows the descriptive statistics for performance, broken down by Gender and Self-Theory. Here, it can be seen that in general the mean performance of males is on average somewhat higher, and also that performance for those with malleable self-theories is very much higher. Interestingly, females with fixed self-theories perform better than males with fixed self-theories, but the reverse is true for those with malleable self-theories, suggesting a potential interaction effect.

**Table 2: Descriptive Analysis of Performance**

<b>Self-Theory</b>	<b>Gender</b>	<b>Mean</b>	<b>Std. Dev</b>	<b>N</b>
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Malleable	Male	101.91	19.03	34
	Female	90.21	22.94	24
	Total	97.07	21.35	58
Fixed	Male	59	12.83	4
	Female	62.33	9.24	6
	Total	61	10.26	10
Total	Male	97.39	22.68	38
	Female	84.63	23.68	30
	Total	91.76	23.82	68

Dependent Variable: Performance Scores 2011

The full factorial ANCOVA results are in Table 3. The Levene's test for homogeneity of variance is nonsignificant, meaning that this particular assumption of ANCOVA is met. The overall model is significant ( $F(8, 59) = 3.91, p < 0.05$ ) and has an adjusted  $R^2 = 0.26$ . The effect of self-theory on performance is significant ( $F(1, 59) = 20.05, p < 0.05$ ). However, neither the effect of gender nor the interaction between gender and self-theory reached statistical significance. Even so, the test statistic ( $F(1, 59) = 1.1$ ) and the interaction plot of marginal means in Figure 1 do both suggest the potential for an interaction between gender and self-theory, which looks to be in need of further research. None of the covariates reached significance.

**Table 3: Factorial ANCOVA Results**

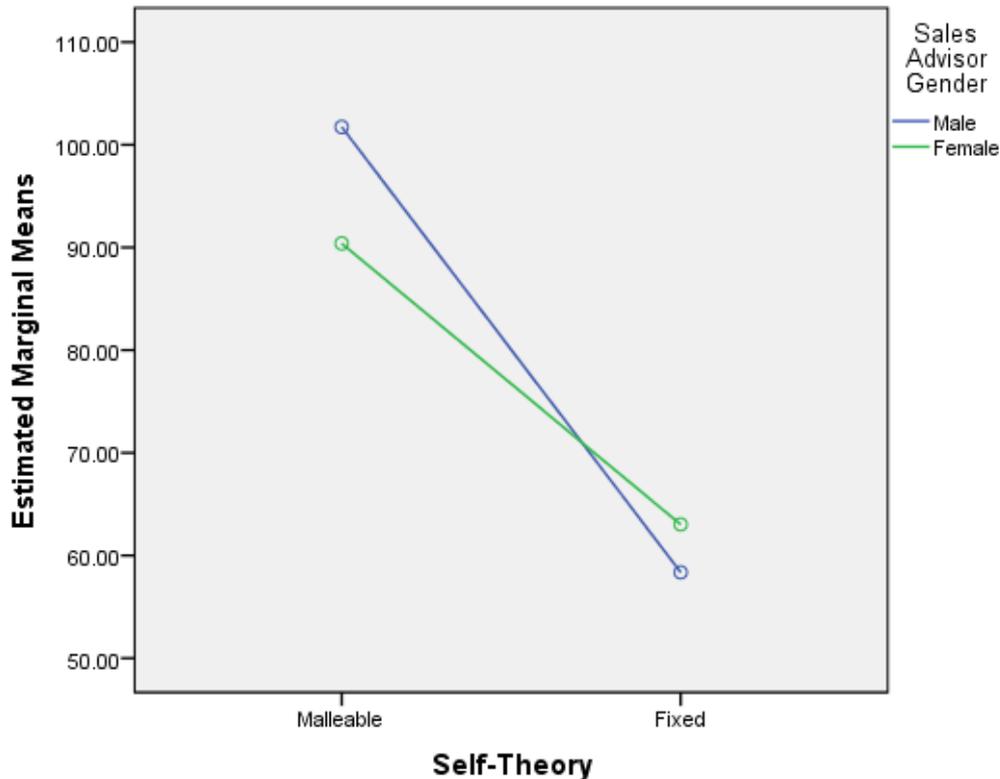
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	13196.744 <sup>a</sup>	8	1649.593	3.921	.001	.347
Intercept	8835.670	1	8835.670	21.000	.000	.263
Time in Sales	48.470	1	48.470	.115	.736	.002
Time in Firm	.726	1	.726	.002	.967	.000
Contracted Hrs/Wk	10.521	1	10.521	.025	.875	.000
Education	.630	1	.630	.001	.969	.000
Age	116.009	1	116.009	.276	.601	.005
<b>Self-Theory</b>	<b>8436.284</b>	<b>1</b>	<b>8436.284</b>	<b>20.051</b>	<b>.000</b>	<b>.254</b>
Gender	81.854	1	81.854	.195	.661	.003
Self-Theory * Gender	463.971	1	463.971	1.103	.298	.018
Error	24823.491	59	420.737			

Total	610632.000	68
Corrected Total	38020.235	67

a. R Squared = .347 (Adjusted R Squared = .259)

Dependent Variable: Performance Scores 2011

**Figure 1: Plot of Marginal Means of Performance**



Covariates appearing in the model are evaluated at the following values: Time working in Sales/Management (years) = 5.82, Time working with Orange (years) = 3.79, Contracted hours = 30.75, Highest level of education achieved = 2.90, Sales Advisor Age = 26.84

## DISCUSSION

Our initial results show a clear difference between the two main schema groups in relation to their sales performance. The malleable group, who believe that their abilities are the result of learning and developing their skills knowledge, showed a markedly higher performance (mean = 97.21) than those of the fixed group (mean = 61) who would define their abilities as the result of inherent capacity or potential. This, together with the results of the ANCOVA, supports our hypothesis that a salesperson that conforms to a fixed conceptualisation of intelligence will demonstrate lower sales performance than a salesperson that conforms to a malleable conceptualisation of intelligence. Interestingly, none of the covariates (i.e. time in sales, time in the firm, contracted hours per week, education level, and age) demonstrated any statistically significant effects on performance.

### **FIXED CONCEPTUALISATION OF INTELLIGENCE**

In relation to attribution theory, our conceptualisation of intelligence might help us to explain our success (or failure) in terms of performance to ourselves. If we have a fixed conceptualisation of intelligence, we may seek to explain our performance as due to factors outside of our control. By doing so, we are able to shift the locus of the cause away from our own actions and to project them onto the actions of others or of the environment in which we are operating (Bandura, 1977). This then allows us to question the stability of the cause of our performance, in that an unstable (or changeable) cause does not commit us to expect failure in the future. This also facilitates our cognitive consistency, in that our belief that failure is not due to our own limitations but to circumstantial (and changeable) factors means that we do not face dissonance in our thoughts and actions. Setbacks and challenges are not seen as opportunities to learn and improve, but as a function of luck or circumstance. Our abilities remain the constant within an ever-changing world, and therefore challenges may not spur us on to explore alternatives, but simply cause us to retrench into our familiar and comfortable patterns of behaviour in order to maintain cognitive consistency. Thus challenges would not provide a positive stress that would act as a spur to improvement, but would reinforce negative perceptions of incompetence and ineffectual personification of their role.

We may therefore use internal attribution to maintain that we have the intelligence necessary and are able to perform the task (i.e. to meet sales targets) but use external attribution to explain that we were unlucky in this instance. By maintaining that our ability to perform is a given, we then shift the responsibility for our performance onto contingent factors rather than our own actions. This allows us to maintain our self-worth, which is an important motivator in attribution theory (Weiner, 1992). Seeing intelligence as a pre-determined ability, in which attributes such as smartness or cleverness are a given and outside of our control, relieves us of the guilt or responsibility of changing our circumstances. It also allows us to attribute the success of others to their own intrinsic attributes (i.e. their personality, or smartness) which again places any negative performance comparisons we may make between ourselves and them outside of our own control.

This notion of control and determinate attributes is seen as an important concern in the literature on essentialism. What do we mean by essentialist? 'An argument can be classified as essentialist if it holds that an essential property yields explanatory knowledge of how individuals, groups, institutions, structures, etc., operate' (Cruickshank 2007:180). Such arguments, Cruickshank argues, are reductionist and deterministic as they reduce the level of causal explanation to one essential property alone which then explains all aspects of the object in question. In particular, Groff (2013:213) notes that a distinction is made between dispositional property kinds and categorical property kinds. As such, the identity of dispositional properties depends on what they dispose their bearers to do, and the display of which constitutes the essences of causal process kinds, whereas the identity of categorical properties depends on what they are. 'Dispositional properties account for the efficacy of stimuli; they concern activity and are therefore anti-passivist, and are thus powers.' (Groff 2013:214).

Given that none of the covariates in our study proved to be significant in explaining the variation in sales performance, it would seem that the idea of intelligence as an essential dispositional property of each person, one which explains much of the differences in sales performance, would be an interesting foundation for further study in the field. If categorical properties such as age, education, length of experience and working patterns do not help explain differences in sales performance (and that is what our findings show), then focusing

on dispositional property kinds – such as fixed vs. malleable intelligence beliefs – and how they explain action would be fruitful.

### **MALLEABLE CONCEPTUALISATION OF INTELLIGENCE**

Unlike those with a fixed conceptualisation of intelligence, those who view intelligence as malleable would believe that it is open to change and development. Their locus of cause would be felt as internal, and very much a part of their personal identity and their choice of action. In fact, their sense of personal identity would enhance the notion that the cause of their performance is stable (Bandura, 1977). Setbacks and challenges would be seen as opportunities to learn and improve, and to resolve any cognitive dissonance through reflection and purposeful action. By focusing more on internal attribution as a source of constraint and change and less on contingent factors outside of their control, those with a malleable mind-set engage in what Archer (2000) termed the personification of their social role. This means that they not only pay credence to their social identity, but reflect on how their personal identity informs this.

Personification, in Archers' lexicon, focuses primarily on how we, as both personal and social beings, come to invest ourselves in a (social) role and personify it in a particular way through our thoughts and actions. This is because "People can bring to any role that they occupy the human qualities of reflexivity and creativity" (Archer, 2000:289). Ellis and Liese (1994) state that human beings have variable powers, that can be gained or lost over time, and which gives them the powers to change their own dispositional properties, otherwise known as agency. Thus, through deliberation agents are able to act from an intentional state of mind brought about by the agent themselves. Humans as causally effectual beings mean that: '... these powers endow humans with the ability to bring about changes in material or mental phenomena, to produce or influence objects and events in the world' (Smith 2010:42).

However, these qualities are also subject to the cultural and structural conditions in which we find ourselves. Our personal sense of self and our personal identity are not forged in our minds alone, but are situated in a world of social interaction and intersubjective meaning that we explore through our practical actions (Archer, 2000:255). We may develop a stable sense of self which revolves around ultimate concerns (e.g. health or happiness), but these concerns are constantly re-evaluated by us in relation to our social actions. We deliberate whether our actions and our ambitions (or ultimate concerns, as Archer terms them) are in sync. If so, we then form a commitment which dedicates our future thoughts, feelings and actions. We decide how much of ourselves to invest in this role (Archer, 2000:292).

For those with a fixed conceptualisation intelligence, shifting the locus of the cause away from their own actions and projecting them onto the actions of others or of the environment offers them the opportunity to avoid re-evaluating their ultimate concerns. Rather than deliberating on the synchronicity of their actions and their ambitions they take refuge in the fact that their abilities are determined by factors outside their control. However, as Smith (2010) points out, humans have the ability to change material or mental phenomena and so this abdication of deliberation can be altered. For those with a malleable conceptualisation of intelligence, deliberation would be embraced as it would allow the individual to bring greater harmony to their cognitions, and enhance their feelings of control over the development of both their personal and social identities. As a result, those sales advisors with a malleable mind-set may achieve stronger sales performance because of their

decision to choose tasks that are more difficult, less comfortable, and that force them to stretch themselves so that they can adapt to the task at hand. Such choices, together with their deliberation and the forming of renewed commitment between their personal and social identities may well account for the more positive performance achievements seen in our data for those with a malleable mind-set.

### **GENDER AND SELF-THEORY EFFECTS**

While overall those with a fixed conceptualisation of intelligence performed worse than those with a malleable conceptualisation, it was interesting to note that these results may differ by gender. Even though the ANCOVA did not show a statistically significant result for neither the effect of gender, nor the interaction between gender and self-theory, on performance there was evidence that an interaction between gender and self-theory beliefs may be evident from the interaction plot of marginal means (Figure 1). For female salespersons, those with a fixed conceptualisation outperformed their male colleagues (mean = 62.33 vs. 59), while saleswomen those with a malleable conceptualisation of intelligence performed less well than their male counterparts (mean = 90.21 vs. 101.91).

According to attribution theory, where an individual locates the perceived cause of an event (in this case sales performance) matters. One of the main elements of causal effect is the location of the perceived cause – either internal within the individual or external to outside causes. Weiner (1985) maintains that if the locus is internal, feelings of self-esteem and self-efficacy will be enhanced by success and diminished by failure. If male salespersons were to exhibit a greater internal locus of cause, then this might explain why with a fixed conceptualisation of intelligence they do not outperform female sales personnel, but with a malleable conceptualisation of intelligence they do. With a fixed conceptualisation of intelligence, they would attribute their performance to their own failure (rather than to external conditional factors) more strongly than their female colleagues. Conversely, where they possessed a malleable conceptualisation of intelligence they would attribute successful performance to their own abilities more strongly than their female colleagues.

### **CONCLUSION**

The intention of this paper was to test the potential relationships between a sales advisors' proposed self-theory of intelligence and their performance capabilities within a retail sales force. There was strong support for the link between the salespersons' conceptualisation of intelligence and their sales performance. The data showed that sales advisors that conformed to a fixed mind-set demonstrated less desirable performance figures than those with a malleable mind-set.

### **MANAGERIAL IMPLICATIONS**

The findings of this paper have implications for three key sales management topics; recruitment, sales training, and performance management. With more sales novices entering the field than ever before (Chang, Sweas and Sweas, 2003) the accurate determination of those with the greatest potential has a major effect on sales costs and effectiveness (Maxwell, Read, Saker and Story, 2005). Sales managers have often used personality tests that are based on the premise that a sales job requires a certain type of person or the goal being to find personality dimensions not salient for other jobs that could be useful in predicting sales

success. Multiple personality tests have been proven and disproven (Ghiselli and Barthol 1953; Vinchur, Schippmann, Switzer and Roth, 1998) and the results of this paper offer recruitment specialists and managers the opportunity to consider other factors about an individual i.e. fixed or malleable mind-set when selecting sales representatives. When we review the performance difference between fixed and malleable mind-set sales advisors managers may wish to consider new ways to engage with candidates applying for sales roles within their organization. Not only do the results of this paper prove that there is significance between these two sets of individuals but there is also an opportunity to take advantage of these new and commercially unknown links. Many filtering processes adopted by recruiters tend to rely on how candidates respond to questions that require obvious answers however the questioning of a candidates 'idea' of intelligence is one that is not obvious, and where candidates cannot try to give the 'correct' answer. In addition, face-to-face interviews could be enhanced and questions surrounding what a candidate thinks he or she is 'naturally' good at could indicate where they stand in terms of intellectual development and growth. The mind-set an individual fosters is one that managers should consider understanding before committing them to a post.

While the belief systems posed by Dweck do not seem to allow room for a mixed perception of intellect i.e. sometimes fixed and sometimes malleable, it has been recognised that people are dynamic, multiple, varied, changeable and even double-faced Janus' with opposite sides and views (Markus and Wurf, 1987; Salgado and Hermans, 2005). Considering our multifacetedness, the belief systems we hold of our own intelligence may not be so black and white when compared with one another. Importantly, Dweck (1999) demonstrates that it is certainly possible to change individual self-theories from fixed to malleable, through the use of reasonably simple training programs and experimental manipulations. As such, it is clear that training will have a key role to play in encouraging a malleable mind-set in the sales force. It takes an average of 73.4 days to train an entry-level sales rep (Kaydo, 1998) and in technical markets (e.g. telecommunications, computers, imaging systems, and chemicals) the costs associated with the development of a single salesperson can exceed \$100,000 (Johnston and Marshall, 2006). When we consider that the organization used for this study has over 7,500 employees from their retail estate alone, the costs are undoubtedly high. Managers are continuously investing resources in sales training and want to see their store reach its objectives. The results of this study offer new ways in which managers could approach training new *and* existing members of staff. Sales advisors could be helped to develop a malleable mind-set and thus see ability as something that is not innate but rather can be developed and grown through trial, error and hard work.

Another sales training implication is that of underperformance management. Sales advisors struggling to achieve individual targets will often experience what they see as the burden of performance management. However, by fostering a malleable mind-set they may be open to suggestions, not as critiques of some fixed capacity, but rather as a way of extending and developing new performance capabilities. A malleable mind-set endorses the view that mistakes are a natural part of progressing and within the right context are perfectly normal (Dweck, 1999). On the flip side managers may be interested in understanding how to reward those who do perform effectively. More often than not sales advisors within any discipline are rewarded for their personal performance. However, the results of this study illustrate that the mind-sets salespeople hold about their own intelligence is something that influences their performance – and their mind-set is something that can be changed (Dweck, 1999). Recognising that ability may be perceived differently by differing salesperson groups,

managers may want to consider whether or not they are actually de-motivating some staff while praising others when they focus on performance alone.

### **SUGGESTIONS FOR FURTHER RESEARCH**

This study has proven a positive link between a malleable mind-set and high performance in a sales context. Treatments that attempt to influence a sales advisor's mind-set in relation to intelligence could open up opportunities and have important implications for sales force training. Training programs to achieve and maintain high levels of salesperson competence could focus on how salespeople respond to messages that attempt to change their mind-set by measuring their belief patterns before, during and after the training. This could also be related to their performance to see whether or not it demonstrated an uplift or downfall.

Another direction for future research relates to the leadership chain of the organization in question. This paper has only focused on one team within the sales force of one company. It would be useful to examine the mind-sets of regional managers, directors, chief executives and the board of directors to see whether or not there are any relationships with measurable organizational performance indicators (i.e. market share or stock price). Dweck (1999) has proven in her methods that performance at any stage can be manipulated if the subjects are taught a universal fact that changes a belief system. By taking these methods and applying them at the top of an organizational hierarchy there could be staggering results as employees and managers alike may feel more comfortable taking on challenges and opportunities with a mind-set that embraces discomfort and incongruity. Efficiency could well be increased, and individuals who did not believe previously that they were 'smart enough' may become new resources in filling an organizational knowledge gap.

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### Appendix 1: Fixed Intelligence Scale Items

Item <sup>1</sup>	Factor Loading <sup>2</sup>
You have a certain amount of intelligence, can't really do much to change it	0.815
Your intelligence is something about you that you can't change much	0.971
To be honest, you can't really change how intelligent you are	0.904
You can learn new things, but you can't really change your basic intelligence	0.671
<i>Cronbach's Alpha</i>	<i>0.902</i>

<sup>1</sup>Items scored on a 1-6 scale with lower scores representing stronger disagreement.

<sup>2</sup>Principal axis factoring with direct oblimin (oblique) rotation. One factor was returned after 8 iterations.