

Published in:

Jackson, C., Furnham, A. & Miller, T. (2001). Moderating effect of ear dominance on personality in the prediction of sales performance. *Laterality*, 6, 133-140.

Moderating effect of ear preference on personality in the prediction
of sales performance

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Abstract

This study examined the relationship between ear preference, personality and performance ratings on 203 telesales staff. Social Desirability scores were a significant predictor of two relatively independent sets of supervisor ratings (actual performance and developmental potential) in interaction with ear preference. It was found that the Social Desirability scale was a significant positive predictor for staff preferring a right ear headset, but a negative predictor for staff preferring a left ear headset. These results were interpreted in terms of different strategies used to achieve successful sales.

Introduction

Despite the popularity of the idea of left-vs-right brained individuals, the area has attracted little research using work based (organisational) data as the dependent variable. However there have been important theoretical advances in the more specialised handedness area of research (Annett, 1985; McManus & Bryden, 1992; McManus, Shergill & Bryden, 1993; Porac & Coren, 1981; Springer & Deutsch, 1993).

The idea of describing individual's work based performance and preferences in terms of two opposite 'hemisphere' based types has appealed to popular writers (e.g. successful sales staff are said to be more 'right brained', Edwards, 1979). Conceptions of hemispheric specialisation suggest the left hemisphere is logical, linear, thinking, analytical and rational whilst the right hemisphere is intuitive, holistic, synthetic and analogic. Left brain dominant individuals are thought to be good scientists and right brained dominant individuals have the potential to be artists and musicians. Thus Edwards (1979) speculates that sales people are 'right brained' because they are responsive and intuitive as opposed to analytical. Speculations have been made regarding cerebral specialisation and cognitive processes: the two hemispheres seem to be specialised to process different types of cognitive task and people vary in their reliance on one hemisphere as opposed. However these ideas have been criticised as being highly speculative metaphors rather than physiologically based differences (Hellige, 1990; Kimura, 1973).

This study is concerned with the ear preference of tele-sales operators and its relation to performance. This is a subject which has attracted limited attention in the research literature. There have been studies on earedness (Noonan & Axelrod, 1981); ear

preferences (Strauss, 1986) and the relationship between ear preference and telephone usage (Williams, 1986). Unlike the retina which projects contralaterally to the brain from one half of its retina and ipsilaterally from the other half, each ear sends information about a stimulus to both hemispheres. Nevertheless it seems likely that contralateral projections from ear to brain send more complete information than the ipsilateral ones (Springer & Deutsch, 1993) suggesting that individual's with a preference for a right eared telephone headset will be more 'left brained' whilst those using a left eared headset will be more 'right brained'. Williams (1986) also supports the view that there are differences between the ears but explains them in terms of attention or neglect of one ear over the other.

Furnham, Richardson & Miller (1997) looked at ear preferences and telephone sales in two studies. In a field study, three equally sized teams used one of three head-sets - left, right, both ears - for a day's selling of insurance by telephone. There was no difference as a function of ear preference. In a retrospective study, using records of daily sales performance, it was shown that sales were related to choice of head set used. People who chose to wear the left ear-piece significantly out-sold the others wearing the right and stereohead-sets. Neither the number of incoming calls nor the time spent on the telephone was influenced by the choice of head-set. When sales were analysed in terms of individual differences in personal preference for type of head-set, those who chose the left ear had an advantage. This second result supports the speculations of Edwards (1979) that successful sales staff tend to be intuitive rather than analytical although the first result does not.

This study examines the effect of personality and ear preference, not on actual sales but on supervisors' appraisal ratings of performance and development who were unaware of subordinate ear preferences. One previous study of cosmetic sales staff, using supervisor ratings as the criterion, has showed that no personality scales are highly related to supervisor ratings (Jackson & Corr, 1998) although Barrick & Mount (1991), by means of meta-analysis, report that extraversion is generally positively correlated with successful sales. One study using tele-sales operators found that extraverts tended to receive highest ratings by their managers (Furnham & Miller, 1997). Using a new sample, this study looked at the main effects and interactions of personality measured by the EPI (Eysenck & Eysenck, 1964) and ear preference. Based on previous research, we predicted that individuals with a preference for a left-ear head-set and who were extraverts would achieve highest supervisor ratings.

We also expected to find a social desirability main effect. (Social Desirability is another name for the Lie scale used in some personality questionnaires, Furnham, 1986). Data from Jackson, Furnham & Lawty-Jones (1999) indicate that sales people generally appear to have a higher average social desirability score than people in other jobs, so it seems as though sales people are generally high in Social Desirability. This suggests that Social Desirability is a cardinal trait of people who are sales staff and therefore that Social Desirability might well be related to sales performance as a main effect. Such a result makes intuitive sense because a successful sales person may need to create a good impression of themselves as well as their product or service.

We also decided to look for interactions between personality scales and ear preference because much recent research suggests that interactions between personality scales and other variables can be very important although often overlooked (see Eysenck, 1997 for a review of personality interactions with other variables). In particular, we expected to find a social desirability x ear preference interaction. A review of the sales literature suggests that there are many different sales strategies (Buzzotta, Lefton & Sherberg, 1982; Greenberg & Greenberg, 1991; Jackson, 1996; Jackson & Furnham, 1995; Lidstone, 1986; Peel, 1990; Rackham, 1987; Tietjen, 1986; Video Arts Production, 1985) so we believed that the analytical 'left brained' sales staff could be as effective as right brained and that sometimes projecting a socially honest instead of socially desirable personality could also lead to success. In particular we hypothesised that there may be two types of successful sales staff: (1) success can derive from being logical and rational (i.e. with a preference for the right ear / left hemisphere) and by creating a socially desirable impression. (2) success can derive from being intuitive (left ear preference / right hemisphere) and by creating an honest impression.

In other words, rational sales people might see a link between successful selling and impression management because they see a logical link between manipulating the cardinal trait of the sales person and their own performance. On the other hand, an intuitive sales person might be successful in sales through other means than appearing to be highly socially desirable such as by trying to understand the needs of the client and appealing to these instead.

Method

Participants

Two hundred and three employees took part, of which 152 were female. They came from various parts of the organisation, but mainly the service (103) and sales (42) sector. Their average age was 30.88 years (SD=9.23 years) and they had been working for the company for 5.54 years on average (SD=6.08 years).

At no time were participants aware that ear preference was an important variable within the study.

Measures

Dependent variables

Each employee was appraised by their direct manager on four point scales labelled Performance (P) and Development (D).

The average measure on the P scale was 2.87 (SD=0.41) and on the D scale 1.64 (SD=0.82).

Independent variables

Each person completed the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1964) which measures extraversion and neuroticism. The scores are said to have a purer measure of extraversion than subsequent measures (Eysenck & Eysenck, 1985). There is considerable evidence of its reliability and validity. Sex, age and experience in the company were also measured and ear preference was recorded. Staff have the opportunity of choosing left, right or stereo head-sets according to their personal preference. Furnham, Richardson & Miller (1997) report that choice of head-set is generally the same as the ear used to answer the telephone at work. Preferred hand usage was also recorded.

Procedure

As part of the annual 'stock check' in the training department of the insurance company, details on each tele-sales employee are recorded, along with tests they may have taken at selection or on

more recent training courses. These were obligatory and fed back to all participants as part of their course. This study utilised the data obtained from this stock-check.

Results

Means, standard deviations and correlations between the scales are presented in Table 1. The most important observation from this table is that there is only a modest correlation between the Development and Performance appraisal ratings (accounting for less than 10% of the shared variance) suggesting that the two scales do measure reasonably distinct and independent scales of appraisal.

After splitting the participants into three groups (users of right ear headsets, left ear headsets and both), the personality scales were regressed against the two appraisal scales. Only social desirability is a significant positive predictor of Development ratings for staff who prefer a right ear headset (beta = .22, t = 1.95, p < .05). For staff who prefer a left ear headset, social desirability is a significant negative predictor of Development ratings (beta = -.35, t = -2.72, p < .01). E and N were not significant predictors and were therefore dropped from further analysis. No personality scales predicted the performance ratings.

We then performed a moderated regression of ear preference and social desirability against each of the two performance appraisal scales. The moderated regression followed a two step process. After standardisation of all the variables, Step 1 involved entering Ear preference and social desirability scores. Once these effects were entered into the multiple regression, the interaction effect of ear preference x social desirability score was then entered. For both Development and Performance appraisals, results showed that Ear preference moderated the effect of Social Desirability (for

development ratings, $\beta = -.24$, $t = -3.46$, $p < .01$ and for performance ratings, $\beta = -.21$, $t = -3.06$, $p < .01$).

The interaction effects for development and performance was plotted. In both cases, the results show that staff preferring to use their right ears receive higher appraisals only in the presence of high Social Desirability scores. However with left eared staff, the opposite is true: staff with low Social Desirability scores receive higher appraisals. Staff who use stereo head-sets fall in between.

Handedness had also been recorded and was found to be unrelated to both the performance ratings and personality.

Discussion

We did not find the expected main effect relationship between extraversion and ear preference against the appraisal ratings. Our results therefore differ from those reported by Furnham & Miller (1997) and Furnham, Richardson & Miller (1997), even though the samples of participants are quite similar. Furnham, Richardson & Miller (1997) report an ear preference main effect with different criteria and a different sample and Furnham & Miller (1997) report an extraversion main effect. We believe that this study adds to these results by incorporating an ear preference x social desirability interaction - something that was not measured in these earlier studies.

The results of this study are intriguing and show the moderating effects of ear preference on social desirability in the prediction of appraisal ratings. Right-ear preference individuals with high social desirability are associated with high performance whereas for left ear preference individuals, a low social desirability score is associated with high performance. Sales staff with a balance between left and right ear preference have the highest

supervisor ratings of all. Here social desirability has little effect in predicting sales performance. Over all the participants, the reason why social desirability does not predict sales performance seems to be because the effect of left and right ear preference effectively cancels out each of the opposite effects - thus adding more evidence in favour of the stance taken by Eysenck (1997) in advocating increased use of personality measures as potential moderators of human performance in general.

We explain these findings in terms of the two (of many) strategies that salespeople can use to become successful. It seems that right ear preference sales staff may be more able to see the logical connection between high social desirability and successful selling through general use of their left brain; on the other hand left ear preference sales staff may try and establish an intuitive and responsive relationship with clients without resorting to faking-good through use of their right brain (as Edwards, 1979 described).

Our study does not indicate causality in that it does not state whether ear preference and social desirability are precursors to each other or to high appraisal ratings. However we do not believe that the lateral dominance of the sales person causes ear preference; instead we suspect that ear preference is a matter of (a) personal habit (b) office environment factors (such as how convenient it is to have an ear piece in the left or right ear) and / or (c) to do with good sales people consciously or unconsciously choosing an appropriate ear that allows best access to the part of the brain which reflects their optimal selling strategy.

This explanation does rely on ear preference providing greater access to one side of the brain than the other and also is reliant on the somewhat populist notion that left brained and right brained

individuals follow different strategies (logical vs intuitive) in achieving their goals. This study does lend some support to both these notions.

We believe that our data are best explained in the above manner. Furnham, Richardson & Miller (1997) investigated and rejected many of the possible confounding variables that might cause differences in ear preference such as differences in number of incoming calls and time spent on the telephone between left and right preference users. Furnham et al (1997) also dismiss a link between ear preference and handedness suggesting that ear preference is not linked to cerebral dominance. This study supports this perspective since we did not find our handedness measure to be a significant predictor. Indeed Furnham et al (1997) found that ear preference is most closely linked to choice of ear used to answer the telephone at work supporting our use of the word preference as opposed to dominance.

The appraisal ratings used in this study were single item scales and therefore no reliability or validity evidence is available for them. This is not a significant limitation to the study since the same performance ratings were shown to be useful by Furnham & Miller (1997) and any possible low reliability and validity is unlikely to be able to explain the complex results found in this study. Moreover, it also seems unlikely that two relatively uncorrelated appraisal ratings would be so consistently related to predictor variables in such a complex manner.

In sum, our study does suggest that ear preference (and possibly therefore laterality of the brain) can be an important variable in understanding the way people work. The evidence for this effect seems quite strong because the effect is found in multiple

regressions against two, only moderately inter-correlated supervisor ratings.

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Acknowledgements

All correspondence to Chris J. Jackson, Department of Psychology, University of Surrey, GU2 5RT, U.K.. Adrian Furnham, Department of Psychology, 26 Bedford Way, London, WC1 0AP, U.K.. Tony Miller, Performance Advantage Technologies, Connecticut 06851, U.S.A. Thanks to Professor McManus for helpful comments on a draft of this paper.

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Table 1

Means, standard deviations and intercorrelations between the variables

	Right ear (N=101)		Both (N=27)		Left (N=75)		E	N	L	Dev
	Mean	SD	Mean	SD	Mean	SD				
E	13.10	4.58	12.52	4.97	13.72	4.45				
N	8.24	5.39	9.22	4.45	9.57	5.01	-.10			
L	3.37	1.89	3.22	1.83	3.52	1.65	-.32**	-.31**		
Dev	1.51	.77	2.37	.88	1.55	.76	-.18*	.10	.00	
Per	2.89	.44	2.96	.43	2.88	.40	-.08	.05	.08	.29**

E = Extraversion

N = Neuroticism

L = Lie score

Dev = Development appraisal rating

Per = Performance appraisal rating

* p < .05

** p < .01