

HAPPINESS AND SOCIAL SKILLS

MICHAEL ARGYLE and LUO LU

Department of Experimental Psychology, University of Oxford, South Parks Road,
Oxford OX1 3UD, England

(Received 22 February 1990)

Summary—Sixty-three adult subjects were given measures of happiness, extraversion, neuroticism, social competence, and cooperativeness at time 1, and happiness 4 months later. It was found that assertiveness correlated with happiness, and predicted it in longitudinal regression analyses. Extraversion and neuroticism correlated with happiness (and neuroticism predicted it) but this could mostly be explained by the mediating effect of assertiveness. Cooperation failed to correlate, and self-consciousness scales correlated with but failed to predict happiness.

INTRODUCTION

Does social competence in general, or do particular components of it, cause happiness? Individuals with poor social skills are likely to become socially isolated and lonely, which is a major source of unhappiness and depression (Argyle & Henderson, 1985). Social skills training is usually included in happiness training courses, and there is some evidence for their success (Blaney, 1981). Assertiveness training has been found to be effective for depressed patients, and assertiveness on 1 day predicts happiness on the next (Sanchez, 1978). However, if social competence operates primarily through the generation of good social relationships there are other aspects of it to be considered.

It is now well-established that extraversion is correlated with, and predictive of, happiness (e.g. Costa, McRae & Norris, 1981). This is partly because extraverts experience more favorable life events with friends and at work (Headey, Glowacki, Holmstrom & Wearing, 1985). We have found a correlation of 0.48 between happiness and extraversion, and found that about half of this variance can be explained by the greater participation of extraverts in social activities (Argyle & Lu, 1990). The greater social activity of extraverts could be due to greater social motivation, or, we now suggest, to greater social competence.

It is well-known that neuroticism correlates with and is predictive of unhappiness (e.g. Costa *et al.*, *op. cit.*). This is partly because neurotics experience more negative life events, at work and financially (Headey & Wearing, 1989). We also know that many neurotics have poor social skills, and are socially isolated; we have proposed that this is the cause of their emotional distress in many cases (Trower, Bryant & Argyle, 1978). Perhaps the unhappiness of neurotics too can be explained in terms of their lack of social competence.

Several approaches to the psychological explanation of happiness have found that 'resources' are an important individual difference variable. Campbell, Converse and Rodgers (1976) found that a number of measures of 'personal competence' predicted well-being. These included intelligence, health, attractiveness, income and education. It seems likely that social competence is another personal resource, since it enables individuals both to develop supportive relationships, and to influence people.

We have recently proposed that cooperation is an important source of interpersonal attraction and positive affect, and that this requires cooperative skills (Argyle, 1990). There is not yet an established measure of cooperativeness, but certain scales have been found to be correlated with it. Crandall's Social Interest Scale (1980) is based on Adler's notion of concern about other people, and has been found to correlate with a variety of indices of cooperativeness. Using a number of small samples, Crandall found that this scale correlated with self-ratings of happiness, for women, though less so for men, and more for adult *Ss* than for students. Measures of empathy, e.g. by Mehrabian and Epstein (1972), have been found to correlate with helping behaviour (Eisenberg & Miller, 1987), which is closely connected with cooperation.

Although there are no overall differences between men and women in social competence, women are better in aspects of competence which are relevant to positive affect. Women are more cooperative, higher in empathy, send more positive non-verbal signals, are more rewarding, and more able to form close social relationships. On the other hand men are more assertive. In overall happiness, there is not a great difference, but women are slightly happier, according to a recent meta-analysis (Wood, Rhodes & Whelan, 1989).

The following hypotheses will be tested:

- (1) Social competence correlates with happiness, and can give an independent prediction of it.
- (2) Extraversion can give an independent prediction of happiness, and the effect of extraversion can partly be explained by social competence.
- (3) Neuroticism can give an independent prediction of unhappiness, and this can partly be explained by lack of social competence.
- (4) Cooperativeness can give an independent prediction of happiness.

METHOD

Subjects

Sixty-three *Ss* (31 females, 32 males) from the Oxford Subject Panel took part in this study: 55.6% (35) of the *Ss* were married, 44.4% (28) were single or divorced, 85.7% (54) of the *Ss* were employed and 14.3% (9) were not on paid jobs. The sample mean age was 37.6.

Procedure

In this study, happiness was measured by the Oxford Happiness Inventory (OHI) (Argyle, Martin & Crossland, 1989). Using factor analysis, earlier research found seven orthogonal factors on the OHI. They may be loosely labelled as factors (1) 'Positive cognition', (2) 'Social commitment', (3) 'Positive affect', (4) 'Sense of control', (5) 'Physical fitness', (6) 'Satisfaction with self', and (7) 'Mental alertness'.

Social competence was measured by a cluster of questionnaires. Fenigstein, Scheier and Buss's scale (1975) has three subscales measuring Private and Public self-consciousness and Social anxiety. These scales could also be interpreted in terms of neuroticism, especially the social anxiety scale. However, Public self-consciousness we will assume for the time being reflects (lack of) social competence. Gambrell and Richey's Assertion Inventory (1975) has two scales measuring 'Degree of discomfort' and 'Probability of response' in various social situations. Within the first scale, there are four factors in which we were interested: 'Initiate interactions', 'Confronting others', 'Engaging in happy talk', and 'Complimenting others'. Both scales are so designed that low scores indicate high assertiveness.

Eysenck and Eysenck's EPQ (1975) was used to give four scores—the Extraversion, Neuroticism, Psychoticism and Lie scales.

Cooperativeness was measured by Crandall's Social Interest Scale (1980), and Mehrabian and Epstein's Empathy Scale (1972).

This was a longitudinal study and data was collected in two phases. At Time 1 (July, 1989), *Ss* were contacted by mail and completed all the social competence measures and the OHI. At Time 2 (November, 1989), *Ss* completed the OHI again.

RESULTS

In order to test for possible effects of demographic variables on happiness, Chi square analyses were conducted for marital and employment status separately. However, neither showed a significant effect on happiness ($\chi^2 = 0.20$ and 0.68 respectively). This justified the use of the whole sample in later analyses. However, sex did show some interesting differences on both happiness and social competence measures. The results are summarised in Table 1.

Females had higher scores on the whole happiness scale as well as on two of its factors. The females were also more extraverted and felt less discomfort in complimenting others than males did.

Table 1. Summary of sex differences

Variables	Females		Males		<i>t</i>
	Mean	SD	Mean	SD	
Time 1					
OHI	35.55	10.96	29.63	12.58	1.99*
Social commitment	5.55	1.75	4.34	2.21	2.40*
Time 2					
OHI	36.10	11.40	29.66	12.73	2.11*
Social commitment	5.84	1.93	4.16	2.00	3.39***
Positive affect	8.23	2.28	7.00	2.41	2.07*
Assertiveness					
Extraversion	13.23	4.72	10.53	5.23	2.14*
Complementing	2.71	0.90	3.38	1.43	2.20*

* $P < 0.05$; *** $P < 0.001$.

A noticeable feature of happiness was its high consistency over time: the OHI scores 4 months apart were very stable and showed no sign of change. The correlation between the OHI total scores at both times was 0.81, and correlations between each pair of seven OHI factors ranged from 0.49 to 0.77.

To address our hypotheses further, Pearson correlations were computed between social competence, personality, cooperativeness, and the OHI at both times separately. Since the two matrixes were virtually similar, only the one using happiness at Time 2 is presented here in Table 2. Since the private self-consciousness, psychoticism and lie scores on the EPQ did not contribute anything to happiness, they were excluded from the matrix.

The correlation pattern is fairly straightforward. First, females were happier than males in general and in some specific aspects (factors 2 and 3). Second, public self-consciousness and social anxiety correlated negatively with happiness and its various components. Third, assertiveness (in general as well as in specific domains) correlated with happiness. Fourth, extraversion correlated positively with happiness, whereas neuroticism correlated negatively. Finally, neither measurement of cooperativeness correlated with happiness.

The primary aim of this longitudinal study was to explore causal linkages between social competence and happiness. A series of multiple regression analyses was conducted to predict happiness at Time 2 from social competence and personality measured earlier. The results are presented in Table 3.

The 'assertion' in Table 3 is the score on the 'Probability of response' scale in Gambrill's Assertion Inventory. This variable combined with neuroticism explained 35% of the variance in happiness. They were also strong predictors of various aspects of happiness.

We pointed out earlier that one striking feature of happiness is its high consistency over time. Indeed, when we took previous level of happiness into account, it explained 66% of the variance in happiness. For the seven factors, the amount of variance explained by their corresponding previous states ranged from 25 to 59%. However, after the effects of previous states have been controlled in the regression equations, neuroticism and assertion still predicted Factor 1; sex and neuroticism still predicted Factor 2; and assertion predicted Factor 7.

In order to explore whether the effects of extraversion and neuroticism can be explained by their relationships with social competence, further analysis was conducted within subgroups. Using the sample mean score on the EPQ-E scale (11.9), two subgroups (extraverts/introverts) were compared on the social competence measurements. *t*-Test results showed that extraverts were less socially anxious than introverts. They were also more assertive, especially in initiating social interactions and confronting other people.

High/Low neurotic subgroups were also formed according to the sample's mean score on the EPQ-N scale (12.1). *t*-Test results showed that *Ss* high on neuroticism had more public and private self-consciousness and were more socially anxious than low neurotic *Ss*. Those high on neuroticism were also less assertive, especially in initiating social interactions and confronting other people.

Hypothesis 1. (Social competence correlates with happiness and can give an independent prediction of it.) We used two indices of social competence, an assertiveness inventory, with a number of sub-scales, and Fenigstein *et al.*'s three self-consciousness measures. The assertiveness scales all correlated significantly at Time 2 with the OHI, especially the two main assertiveness factors. In the multiple regressions probability of response was a predictor of the total OHI score,

Table 2. Interrelations between happiness and social competence

	(1) Positive cognition	(2) Social commitment	(3) Positive affect	(4) Sense of control	(5) Physical fitness	(6) Satisfaction with self	(7) Mental alertness
OHI							
(1) Sex (M = 1, F = 2)	0.26*	0.40***	0.26*	0.17	0.03	0.21	0.20
(2) Public self-consciousness	-0.27*	-0.18	-0.28*	-0.19	-0.14	-0.14	-0.16
(3) Social anxiety	-0.35**	-0.30*	-0.33**	-0.32*	-0.15	-0.32*	-0.22
(4) Assertion (discomfort)	0.39**	0.21	0.30*	0.44***	0.24	0.30*	0.29*
(5) Assertion (probability)	0.42***	0.37**	0.36**	0.38**	0.23	0.27*	0.43***
(6) Initiating interactions	0.33**	0.23	0.19	0.32*	0.10	0.32*	0.24
(7) Confronting others	0.30*	0.16	0.24*	0.30*	0.28*	0.14	0.28*
(8) Happy talk	0.22	0.15	0.17	0.20	0.14	0.17	0.02
(9) Complementing others	0.31*	0.19	0.26*	0.31*	0.18	0.26*	0.28*
(10) Extraversion	0.35**	0.30*	0.37**	0.27*	0.16	0.32*	0.24
(11) Neuroticism	-0.45***	-0.34**	-0.39**	-0.43***	-0.26*	-0.32*	-0.17
(12) Empathy	0.05	0.17	0.06	0.06	-0.12	0.06	-0.02
(13) Social values	-0.12	0.03	-0.07	-0.19	-0.04	-0.12	-0.13

In this table, the scoring of all the assertion scales were converted so that higher scores reflect higher assertiveness.
 $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

Table 3. Multiple regression: predicting latent happiness

Variables	R ²	R ² change	β	F
OHI (total)				
Neuroticism	0.20	0.20***	-0.41***	
Assertion	0.35	0.15***	0.39***	15.69****
(1) Positive cognition				
Neuroticism	0.24	0.24***	-0.46****	
Assertion	0.36	0.12**	0.35**	16.38****
(2) Social commitment				
Sex	0.16	0.16***	-0.42***	
Neuroticism	0.32	0.16***	-0.38***	
Assertion	0.41	0.09**	0.30**	13.57****
(3) Positive affect				
Extraversion	0.15	0.15**	0.34**	
Neuroticism	0.26	0.11**	-0.33**	10.35****
(4) Sense of control				
Neuroticism	0.08	0.08**	-0.39***	
Assertion	0.13	0.05*	0.35**	12.39****
(5) Physical fitness				
Confronting	0.07	0.07	0.26*	4.36*
(6) Satisfaction with self				
Initiating	0.11	0.11**	0.26*	
Neuroticism	0.17	0.06	-0.25*	5.84**
(7) Mental alertness				
Assertion	0.19	0.19***	0.43***	13.62****

F is the value from the final regression models.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$; **** $P < 0.0001$.

In this table, the scoring of all the assertion scales were converted, so that higher scores reflect higher assertion.

and of 4 out of 7 happiness factors. In the longitudinal analysis, where happiness at Time 1 was one of the predictors, assertiveness predicted happiness Factor 1 (positive cognition) and 7 (mental alertness), but not the total OHI score.

Of the self-consciousness scales, Private self-consciousness produced no significant correlations with happiness, but Public self-consciousness and Social anxiety had significant negative correlations with the OHI and with some of its factors. However, they made no significant contribution to the multiple regressions, so their correlations with happiness must be due to other variables, presumably to extraversion or assertiveness.

Hypothesis 2. (Extraversion can give an independent prediction of happiness, and the effect of extraversion can partly be explained by social competence.) As expected, and as found before, extraversion correlated with the OHI ($r = 0.35$). It also correlated with all 7 factors at Time 2. In the multiple regressions extraversion emerged at Time 2 as an independent predictor for happiness Factor 3 only (positive affect) ($R^2 = 0.15$).

Can this be explained in terms of the greater social competence of extraverts? Table 4 shows that extraverts score significantly higher on our measures of social competence, suggesting that social competence may be the mediating factor here.

However, in the longitudinal regression analysis extraversion failed to give any independent prediction of happiness, when happiness at Time 1 was included in the analysis.

To test for mediation, following Judel and Kenny (1989), a series of regression models should be estimated. In our case, assertion (the index of response probability) was the presumed mediator for the extraversion-happiness relation. In the first regression equation, extraversion taken alone predicted assertion ($\beta = 0.49$, $P < 0.0001$). In the second regression equation, extraversion taken alone predicted happiness ($\beta = 0.39$, $P < 0.01$). In the third equation, when happiness was regressed on both extraversion and assertion, assertion still affected happiness. According to the

Table 4. Comparisons between extraverts and introverts

Variables	Extraverts		Introverts		t
	Mean	SD	Mean	SD	
Social anxiety	11.2	4.7	15.8	4.8	3.82***
Assertion (discomfort)	91.4	18.5	106.0	24.5	2.71**
Assertion (response)	104.1	16.8	120.0	11.8	4.14***
Initiating	7.61	2.8	10.1	3.4	3.13**
Confronting	14.9	3.4	17.1	4.9	2.11*

All the non-significant variables are omitted in the table.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

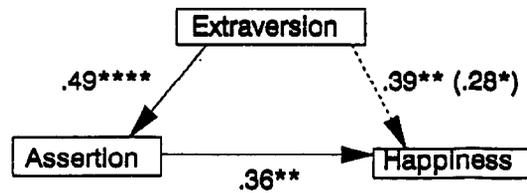


Fig. 1. Assertion as a mediator of the extraversion–happiness relation. (Note that the figure in the parenthesis is the reduced coefficient when the mediator is present.)

statistical procedure, to establish a mediation effect, the effect of the independent variable (i.e. extraversion) on the dependent variable (i.e. happiness) must be less in the third equation than in the second equation. This was indeed the case: the variance in happiness accounted for by extraversion decreased from 15% in the second equation to 6% in the third equation. Therefore, a mediation effect of assertion has been demonstrated.

Hypothesis 3. (Neuroticism can give an independent prediction of happiness, and this can partly be explained by lack of social competence.) Neuroticism correlated at Time 2 as expected, and as found before, with happiness ($r = -0.45$), and with all its factors. In the multiple regression, neuroticism made an independent prediction of the OHI, and of 5 of its 7 factors. Can this be explained in terms of lack of social competence in neurotics? Table 5 shows that individuals scoring high on neuroticism had significantly lower scores on a number of social skills measures. Again this suggests that mediation by social competence may be taking place.

The same series of regression models as described above were estimated to test the hypothesised mediating effect. Although the global measures of assertion did not show a mediating effect, two specific aspects of assertion, i.e. initiating interactions and confronting others, had an impact on the neuroticism-happiness relation.

To test the mediation of initiating interactions, three regression models were computed. In the first model, neuroticism taken alone predicted initiating interaction ($\beta = -0.62$, $P < 0.01$). In the second equation, neuroticism taken alone predicted happiness ($\beta = 0.44$, $P < 0.001$). In the final equation, when happiness was regressed on both neuroticism and initiating interactions, the variance accounted for by neuroticism decreased from 20% in the second equation to 13%. This decrement was significant.

To test the mediation of confronting others the same three regression models were estimated. The corresponding decrement of variance accounted for by neuroticism was from 20 to 14%. In conclusion, the two aspects of assertion, namely initiating interactions and confronting others did act as mediators in the relationship between neuroticism and happiness.

In the longitudinal analysis, neuroticism predicted happiness factors 1 (Positive cognition) and 2 (Social commitment), but not the total OHI score.

Hypothesis 4. (Cooperativeness can give an independent prediction of happiness.) As Table 2 shows the two measures of cooperation used, Empathy and Social Values, had no significant correlation with the OHI or with any of its factors.

Empathy did correlate with Public self-consciousness (0.38), Neuroticism (0.35), Extraversion (0.29), and Private self-consciousness (0.26). These correlations (apart from Extraversion) are in the direction of lower social competence. The other measure of cooperation, Social value, did correlate with Psychoticism ($r = -0.28$).

Table 5. Comparisons between high and low neurotic people

Variables	High neurotics		Low neurotics		<i>t</i>
	Mean	SD	Mean	SD	
Private consciousness	24.8	7.2	19.3	7.2	3.00**
Public consciousness	18.1	4.3	13.8	3.7	4.22***
Social anxiety	15.5	4.8	11.2	4.8	3.51***
Assertion (discomfort)	105.6	21.2	90.9	21.3	2.71**
Initiating	9.8	3.3	7.7	3.0	2.53*
Confronting	17.1	3.2	14.5	4.6	2.31*

All the non-significant variables are omitted in the table.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

DISCUSSION

Several measures of social competence correlated with total scores on our happiness scale, taken at the same time. Multiple regression found that one competence measure, one of the assertiveness factors (probability of response), stayed in as a predictor of the total happiness score and of 4 of the 7 factors. In the longitudinal analysis assertiveness predicted two of the happiness factors (positive cognition, mental alertness), but no longer predicted the total score.

Extraversion correlated with happiness, and all its 7 factors. In the multiple regression it predicted one factor only (positive affect). Extraverts scored higher on all our social competence measures. Multiple regression showed that the effect of extraversion on happiness could largely be explained by the greater assertiveness of extraverts. Extraversion failed to give any prediction of happiness in the longitudinal analysis, probably because of the greater explanatory power of social competence.

Neuroticism correlated strongly (and negatively) with happiness, and also predicted the total score and 5 out of 7 factors. People scoring high on neuroticism had lower scores on all the social competence measures. Multiple regression showed that the impact of neuroticism on happiness was mainly due to (lack of) social competence. In the longitudinal analysis, neuroticism, unlike extraversion, still predicted happiness, not the total score but two of its factors.

Cooperativeness failed to correlate with happiness. It is possible that our measures of cooperativeness were inadequate, but meanwhile the hypothesis is not supported.

Our main hypothesis, that social competence is a cause of happiness was confirmed, and social competence was also found to explain most of the effect of extraversion and neuroticism on happiness.

Acknowledgement—We are grateful to the Leverhulme Trust for their financial support for this research.

REFERENCES

- Argyle, M. (1990). *Cooperation: The basis of sociability*. Routledge: London.
- Argyle, M. & Henderson, M. (1985). *The anatomy of relationships*. London: Heinemann.
- Argyle, M. & Lu, L. (1990) The happiness of extraverts. *Personality and Individual Differences*, 11, 1011–1017.
- Argyle, M., Martin, M. & Crossland, J. (1989). Happiness as a function of personality and social encounters. In Forgas, J. P. & Innes, J. M. (Eds), *Recent advances in social psychology: An international perspective*. North Holland: Elsevier.
- Blaney, P. H. (1981). The effectiveness of cognitive and behavioral therapies. Rehm, L. P. (Ed.), *Behavior therapy for depression*. New York: Academic Press.
- Campbell, A., Converse, P. E. & Rodgers, W. L. (1976). *The quality of American life*. New York: Sage.
- Costa, P. T., McRae, R. R. & Norris, A. H. (1981). Personal adjustment to aging: Longitudinal prediction from neuroticism and extraversion. *Journal of Gerontology*, 36, 245–257.
- Crandall, J. E. (1980). Adler's concept of social interest: Theory, measurement and implications for adjustment. *Journal of Personality and Social Psychology*, 39, 481–495.
- Eisenberg, N. & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Journal of Personality and Social Psychology*, 52, 91–119.
- Eysenck, H. J. & Eysenck, S. B. G. (1975). *Manual for the Eysenck Personality Questionnaire*. London: Hodder & Stoughton.
- Fenigstein, A., Scheier, M. F. & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, 43, 522–527.
- Gambrill, E. D. & Richley, C. A. (1975). An assertion inventory for use in assessment and research. *Behavior Therapy*, 6, 547–549.
- Headey, B., & Wearing, A. (1989). Personality life events and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology*, 57, 731–739.
- Headey, B. W., Glowacki, T., Holmstrom, E. L. & Wearing, A. J. (1985). Modelling change in perceived quality of life. *Social Indicators Research*, 17, 276–298.
- Judell, C. M. & Kenny, D. A. (1981). *Estimating the effects of social interventions*. New York: Cambridge University Press.
- Mehrabian, A. & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality*, 40, 525–543.
- Sanchez, V. C. (1978). Assertion training: Effectiveness in the treatment of depression. Ph.D. thesis, University of Oregon (cited by Blaney, 1981).
- Trower, P., Bryant, B. & Argyle, M. (1978). *Social skills and mental health*. London: Methuen.
- Woods, W., Rhodes, N. & Whelan, M. (1989). Sex differences in positive well-being: A consideration of emotional style and marital status. *Psychological Bulletin*, 106, 249–264.