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## Emotional intelligence as a unique predictor of individual differences in humour styles and humour appreciation

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### ABSTRACT

A small amount of research to-date has examined the association between emotional intelligence (EI) and humour styles, however, none of this research has controlled for the effects of personality and socially desirable responding. Furthermore, none of the research has examined the possible associations with humour appreciation, as distinct from humour styles. Thus, a novel audio-visual humour appreciation measure (AVHAM) was developed based on responses to ostensibly humorous video clips. The AVHAM was found to be associated with factorial validity, as three, positively correlated factors emerged (aggressive, children, and animals). Additionally, convergent validity was observed for the AVHAM, as theoretically consistent and moderately sized correlations were observed between the AVHAM and the Humour Styles Questionnaire (HSQ). Finally, incremental predictive validity was found to be associated with self-reported EI and humour styles, but not humour appreciation. The results are discussed in light of the distinction between humour styles and humour appreciation, as well as the unique role of EI in understanding individual differences in humour.

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### 1. Introduction

Humour has been implicated with several psychological functions, including cognitive and social benefits, interpersonal communication, and coping mechanisms (Martin, 2003; Yip & Martin, 2006). Emotional intelligence (EI) has also been shown to be associated with a number of social and psychological benefits, including relationship satisfaction, optimism, and high self-esteem (Matthews, Zeidner, & Roberts, 2007). Despite the similar correlates associated with individual differences in humour and EI, only a small amount of research has examined the potential links between EI and humour.

Emotional intelligence (EI) has been defined as the “ability to purposely adapt, shape, and select environments through the use of emotionally relevant processes” (Gignac, 2010a, p. 132). It is important, however, to distinguish between two approaches to the conceptualization of EI: (1) ability-based, and (2) trait-based (Petrides & Furnham, 2001). Ability-based measures attempt to measure an individual’s knowledge or skill at identifying and/or using emotions to solve inter-personal problems. Some ability-based measures do so from a maximal performance perspective

(e.g., Mayer–Salovey–Caruso Emotional Intelligence Test; MSCEIT; Mayer, Salovey, Caruso, & Sitarenios, 2003), while others do so from a typical performance perspective (TEMT; Freudenthaler & Neubauer, 2005; Genos EI; Palmer, Stough, Harmer, & Gignac, 2009). Maximal ability EI inventories tend to be based on tasks, while typical performance EI inventories are based on self- and/or rater-report. In contrast to the ability-based measures (both maximal and typical), trait-based conceptualizations of EI (Petrides, Pita, & Kokkinaki, 2007) amalgamate a constellation of self-perceived lower level competencies and personality characteristics into a single model. Although differentially conceptualised to some degree, self-report typical EI and trait-based EI measures tend to correlate to a moderate degree (e.g., Freudenthaler, Neubauer, Gabler, Scherl, & Rindermann, 2008).

### 2. Previous EI and humour research

Greven, Chamorro-Premuzic, Arteché, and Furnham (2008) tested the hypothesis that trait-EI (TEIQue; see Petrides et al., 2007) would be correlated with the scales of the Humour Styles Questionnaire (HSQ; Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003). The HSQ is associated with four subscales: (1) affiliative (the tendency to engage in humour to promote healthy relationships and reduce inter-personal stress); (2) self-enhancing (the tendency to keep a humorous outlook on life as a coping strategy, whether with others or alone); (3) aggressive (the tendency to

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engage in humour that is likely to hurt or alienate others), and self-defeating (the tendency to amuse others by disparaging oneself excessively). Greven et al. (2008) reported positive correlations between total trait-EI scores and the two adaptive humour styles (affiliative  $r = .41$ ; self-enhancing  $r = .48$ ) and negative correlations with the two maladaptive humour styles (aggressive  $r = -.18$ ; self-defeating  $r = -.35$ ). These results suggest that individuals who are higher on trait-EI tend to engage in humour to enhance their social relationships with others, but not to the detriment of others or in a self-defeating manner.

Yip and Martin (2006) examined the association between ability-EI (MSCEIT) and the HSQ. A positive correlation ( $r = .24$ ) between emotional management and self-enhancing humour was observed, which suggests that individuals who manage their own emotions may use humour as a coping mechanism. No other statistically significant effects were reported. Perhaps the paucity of effects was due to some of the questionable psychometric properties associated with the MSCEIT (Palmer, Gignac, Manocha, & Stough, 2005). Alternatively, it may be that a maximal ability-EI orientation may not be as congruent theoretically with individual differences in humour styles, in comparison to a typical EI or a trait-EI orientation. Humour styles, as measured by the HSQ, have been framed within the context of a trait, which is more consistent with typical behaviour.

One of the limitations associated with the Greven et al. (2008) and the Yip and Martin (2006) investigations is that they did not examine the unique effects associated with trait-EI as a predictor of humour styles. That is, trait-EI is known to be associated with both personality and socially desirable responding (SDR; Matthews et al., 2007). In fact, one of the key criticisms of the EI construct is that it is redundant with existing individual differences constructs (Landy, 2005). Thus, the hypothesis that a self-report measure of EI can predict humour styles, independently of the effects of personality and SDR, may be considered useful to test.

### 3. Humour style versus humour appreciation

In addition to not testing the effects of EI independently of personality and SDR, the existing EI and humour research has examined humour strictly as a style. A person's humour style may be considered to be the manner in which an individual uses or exhibits humour on a day-to-day basis (Martin et al., 2003). In addition to humour as a style, humour may be conceptualised in terms of appreciation (Thorson & Powell, 1993). That is, the degree to which individuals consider particular stimuli to be differentially humorous. Studies typically operationalise humour appreciation as either the subjective ratings of humorous stimuli, or an observed response (e.g., smiling/laughing; Kozbelt & Nishioka, 2010). Theoretically, one's enjoyment of certain types of humour is considered to be related to one's personality (Martin, 2007).

Perhaps the most frequently used measure of humour appreciation in the literature today is the 3WD, which was designed to measure three humour dimensions (incongruity resolution, nonsense, and sexual) based on individuals' ratings of funniness and aversiveness toward an exhaustive taxonomy of jokes and cartoons. Although scores from the 3WD have been reported to be associated with respectable levels of reliability and validity (Ruch, 1992), the measure may be suggested to be associated with three limitations.

Firstly, it is approximately 20 years old, thus, the content may be of questionable humorousness to individuals younger than 30 years of age. For example, one item within the 3WD includes the caption of a single-panel comic which depicts an elderly couple conversing: 'You have mistaken a worm for your shoe lace again',

with the reply: 'No, surely not'. Secondly, the humour content originated from Austrian and German media. Given that jokes, like idioms, are often culture and language specific, it may be difficult for English-speaking individuals to relate to or understand the humour even after translation. Finally, the 3WD does not take into account the appreciation of aggressive or hostile humour which has been shown to be a relevant construct in the broader study of humour (Koestler, 1964; Martin et al., 2003; Weinstein, Hodgins, & Ostvik-White, 2011). In light of the above, it was considered potentially useful to develop a measure of individual differences in humour appreciation that may be appealing to individuals of all adult ages, relatively devoid of cultural context, and that includes items relevant to aggressive humour.

Consequently, in this investigation, an inventory based on short video clips derived from America's Funniest Home Videos (AFHV) was developed to measure individual differences in humour appreciation. The use of AFHV video clips in a psychological research study is not unprecedented. For example, Weinstein et al. (2011) selected a series of hostile and non-hostile video clips selected from AFHV to facilitate a priming effect. The humour appreciation measure was developed based on total of 35 video clips selected from several AFHV DVDs. Based on the qualitative evaluations of the first author of this paper, 15 video clips were identified as aggressive and, thus, were considered potentially indicative of maladaptive humour. Aggressive humour appreciation was defined as the tendency to find humorous the viewing of other people's misfortune, typically as a relatively unexpected event that involves a loss of composure and/or the experience of physical pain. An example from this group of clips included a man falling off an exercise bench in a public gym. Another 10 video clips were selected based on content relevant to children. An example from this group of clips included a small child who switched between happy and mad expressions intentionally at the instruction of an adult. Finally, an additional 10 video clips were selected based on content relevant to animals. An example from this group of clips included the depiction of several bear cubs that simultaneously formed a congo-style line in an almost human-like manner. The primary focus in this investigation was on the aggressive humour appreciation dimension. The inclusion of the child and animal video clips was principally for the purposes of evaluating divergent validity.

As the child and animal video clips did not include any aggressiveness or hostility, they were considered unlikely to be associated with the HSQ aggressive subscale. Thus, it was hypothesized that the aggressive AVHAM subscale would correlate more substantially with the HSQ aggressive subscale than with the other HSQ subscales. It was not expected that the AVHAM aggressive subscale would correlate with the other maladaptive HSQ subscale (self-defeating), as no clear theoretical connection was apparent. The possibility that the child and animal AVHAM subscales might correlate with the HSQ affiliative and self-enhancing subscales was also explored, although no specific hypotheses were formulated. Again, the inclusion of the child and animal video clips was considered important for the purposes of establishing divergent validity. Finally, it was hypothesized that typical EI performance would be negatively associated with the AVHAM aggressive subscale. Typical EI performance was also explored as a correlate of the AVHAM child and animal subscales.

In summary, the purpose of this investigation was to evaluate the incremental predictive validity associated with typical EI as a predictor of individual differences in humour style and humour appreciation, independently of the effects of personality and SDR. Additionally, a newly developed measure of humour appreciation will be evaluated for its basic psychometric properties via exploratory factor analysis, reliability analysis, and convergent/divergent validity with the HSQ.

## 4. Method

### 4.1. Participants

The sample consisted of 309 (108 male, 201 female) primarily university students enrolled at the University of Western Australia. Participants were aged between 17 and 64 years ( $M = 23.85$ ,  $SD = 9.07$  years).

### 4.2. Measures and procedure

The Audio-Visual Humour Appreciation Measure (AVHAM) consists of 35 video clips selected from AFHV DVDs. Although the principal interest in developing the AVHAM was to create a scale to measure individual differences in aggressive humour appreciation, both aggressive and non-aggressive video clips were selected for inclusion to help establish some divergent validity. Thus, the video clips were selected by the first author for the purposes of measuring three hypothesized factors of humour appreciation: (1) aggressive (15 items), (2) children (10 items), and (3) animal (10 items; see introduction for more details). The clips (approximately 15 s long each) were presented to each participant in a random order. Participants rated the clips for humorousness on a 5-point scale: (1 = *not funny*, 2 = *slightly amusing*, 3 = *moderately funny*, 4 = *very funny*, 5 = *absolutely hilarious*).

The Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991) is a 40-item self-report inventory designed to measure two subscales: self-deceptive enhancement (SDE) and impression management (IM). The items were rated on a 7-point scale from 'not true' to 'very true', but scored 0/1 based on extreme responses (Gignac, in press; Paulhus, 1991).

The Eysenck Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985) consists of 100 items which assess three personality dimensions: neuroticism, extraversion, and psychoticism.

The Humour Styles Questionnaire (HSQ; Martin et al., 2003) is a 32-item inventory designed to measure two positive humour styles (affiliation and self-enhancement) and two negative humour styles (aggressive and self-defeating).

Genos EI is a self-report measure of typical EI performance which consists of 70 items (5-point Likert scale) and measures seven dimensions (Gignac, 2010b). However, for the purposes of this investigation, only the four subscales most likely to be linked to humour were included in the battery: emotional awareness of others (EAO), emotional expression (EE), emotional self-management (ESM), and emotional self-control (ESC). EAO was considered relevant, as the perception of emotions in others was considered important for the appreciation of humour derived from content based on human and animal subject matter. EE was considered relevant, as it is pertinent to the expression of emotional responses in a socially appropriate manner. ESM and ESC were considered relevant, as they are both relevant to coping. The omitted subscales, emotional reasoning (ER), emotional management of others (EMO), and emotional self-awareness (ESA) were considered less directly relevant to the type of humour one appreciates. The general version of Genos EI, rather than the workplace version, was used in this investigation.

All questionnaires were administered via computer. Once informed consent was obtained, the participants completed all of the testing in one session, which typically lasted approximately 35 min.

## 5. Results

A parallel analysis (O'Connor, 2000) based on the 35 AVHAM items revealed that only the first three solution eigenvalues were

above the corresponding 95th percentile score. Thus, three maximum likelihood estimation derived factors were extracted with a direct oblimin rotation. As can be seen in Table 1, the first factor was defined principally by aggressive humour clips and was labelled 'aggressive' (rotated eigenvalue = 7.47). The second factor was defined mostly by child-based video clips and was labelled 'child' (rotated eigenvalue = 5.96). Finally, the third factor was defined mostly by animal-based video clips and was labelled 'animal' (rotated eigenvalue = 4.45). The correlations between the factors were as follows: Aggressive\*Child = .35; Aggressive\*Animals = .23; Children\*Animals = .44. Thus, there was a positive manifold, suggesting the presence of a general humour appreciation factor. The three extracted factors accounted for 38.2% of the total variance.

Based on the results of the EFA, three humour appreciation subscales were created: aggressive, child, and animal. Because of less than optimal factorial validity, items 6, 13, and 14 were omitted from the aggressive subscale (12-item scale  $\alpha = .89$ ), item 6 from the child subscale (9-item scale  $\alpha = .80$ ), and items 3, 6, and 7 from the animal subscale (7-item scale  $\alpha = .76$ ).

### 5.1. Bivariate correlations

Correlations  $\geq .11$  were statistically significant ( $p < .05$ ). As can be seen in Table 2, the HSQ aggressive subscale and the AVHAM aggressive subscale were correlated at .35, suggesting convergent validity. Additionally, correlations of .14 to .21 were observed between the adaptive humour styles (affiliation and self-enhancement) and the AVHAM child and animal humour appreciation scales.

**Table 1**  
AVHAM pattern matrix.

Item	Aggressive	Children	Animals
agg1	.82	-.21	.02
agg8	.82	-.10	.02
agg10	.69	-.18	.10
agg4	.69	-.11	-.03
agg15	.68	-.01	.02
agg12	.63	.23	-.09
agg9	.57	.20	-.01
agg3	.57	.01	.20
agg11	.57	.12	-.03
agg7	.55	.00	.06
agg14	.55	.31	-.13
agg2	.54	.27	-.04
agg6	.48	.33	-.31
agg5	.48	-.03	.12
agg13	.47	.36	-.05
ani6	.32	.13	.21
child5	.02	.66	.04
child4	.00	.63	.09
child1	-.02	.61	-.01
child9	-.08	.59	.06
child10	.20	.46	.14
child8	.00	.40	.11
ani7	.06	.40	.31
child7	.15	.40	.01
child3	.05	.35	.18
child6	-.10	.33	.32
child2	-.06	.32	.25
ani8	.22	.29	.15
ani1	-.06	.07	.63
ani4	.16	.00	.59
ani2	-.09	.26	.56
ani10	.06	.13	.52
ani5	.06	.19	.48
ani3	.37	-.03	.41
ani9	.19	.06	.36

**Table 2**  
Inter-correlations and descriptives (Cronbach's alpha on the diagonal).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	M	SD
1 Genos-EE	.78																36.29	5.32
2 Genos-EAO	.58	.83															39.12	4.99
3 Genos-ESM	.65	.53	.74														34.95	4.84
4 Genos-ESC	.48	.38	.69	.76													34.32	5.61
5 HSQ-Affiliation	.30	.36	.24	.12	.83												46.34	6.93
6 HSQ-Self-Enhance	.38	.23	.44	.25	.30	.81											38.08	7.87
7 HSQ-Aggressive	-.26	-.16	-.23	-.24	.27	.05	.70										29.41	7.68
8 HSQ-Self-Defeating	-.25	-.14	-.30	-.22	.12	.06	.34	.81									31.07	8.59
9 AVHAM-Aggressive	-.11	-.02	-.01	-.05	.20	.20	.35	.17	.89								31.38	10.57
10 AVHAM-Child	.12	.15	.13	.15	.14	.21	.00	.03	.38	.80							22.23	6.22
11 AVHAM-Animal	.05	.10	.05	.10	.19	.18	.06	.07	.38	.59	.76						22.74	6.03
12 BIDR-SDE	.41	.38	.51	.43	.23	.27	-.12	-.30	.04	.11	.08	.71					5.08	3.35
13 BIDR-IM	.24	.24	.27	.36	-.10	.08	-.44	-.23	-.18	.00	.00	.41	.79				5.50	3.72
14 Psychoticism	-.37	-.27	-.22	-.30	.13	-.06	.40	.15	.12	-.15	-.08	-.05	-.40	.73			6.17	3.83
15 Extraversion	.24	.23	.22	-.01	.47	.33	.27	.11	.23	.17	.16	.19	-.20	.11	.87		14.94	5.25
16 Neuroticism	-.41	-.21	-.60	-.54	-.14	-.30	.08	.38	-.03	-.06	.00	-.49	-.23	.10	-.17	.87	12.07	5.75

Note:  $N = 309$ ; correlations  $\geq .11$   $p < .05$ .

As hypothesized, the EI subscales correlated positively with the adaptive humour styles (.12 to .44) and negatively with the maladaptive humour styles (–.14 to –.30). Similarly, as hypothesized, although weaker in magnitude and less consistent, the EI subscales tended to correlate negatively with the AVHAM aggressive subscale (e.g., EE = –.11), and positively with the AVHAM child subscale (e.g., EAO = .12).

The BIDR subscales correlated positively with the EI subscales (.24 to .51), as well as positively with the HSQ subscales, suggesting response style contamination. Interestingly, SDE evidenced positive correlations with the adaptive humour styles (.23 and .27) and IM evidenced negative correlations with the maladaptive humour styles (–.44 and –.23). The neuroticism and psychoticism subscales tended to correlate negatively with the EI subscales, while the extraversion subscale tended to correlate positively.

Given the pattern of correlations reported above, the estimation of the unique effects between EI and individual difference in humour appreciation and style was considered useful. Additionally, as the four EI subscales correlated with each positively (.38 to .69), it was considered beneficial to create an EI latent variable.

### 5.2. Estimation of unique effects

To estimate the direct effects between EI and humour, controlling for the effects of SDR and personality, a hybrid latent variable/path analytic model was created. As can be seen in Fig. 1 in the first model, the HSQ affiliation subscale was specified to be predicted by the EI latent variable. Furthermore, the BIDR subscales and the EPQ subscales were specified as intervening variables. The intervening variables were expected to exhibit a series of correlated uniquenesses (e.g., neuroticism and extraversion, self-deceptive enhancement and impression management), consequently, a series of correlated uniquenesses were added to those sections of the model. Additionally, the modification index values suggested the addition of two correlated uniquenesses between EAO and neuroticism and between ESC and extraversion.<sup>1</sup> Adding these two terms to the models facilitated acceptable levels of model close-fit (i.e., CFI of approximately .95 or greater and SRMR of .06 or lesser; Schweizer, 2010).

The standardized solutions associated with all seven models are presented in Fig. 1 It can be observed that across three of the four HSQ models, a statistically significant direct effect between EI and

humour style was observed (coefficients in bold/italicised were statistically significant). The lone exception was the HSQ self-defeating subscale. It will be noted that in two cases (affiliation and aggressive), a suppressor effect was observed. That is, the inclusion of the intermediary variables caused the direct effect to increase. For example, in the case where the HSQ affiliation subscale was the dependent variable (model 1), the standardized (*b*) direct effect increased from .30 to .44. Given that a total of five variables have been included as intermediary variables, a simple explication of the suppressor effect is not likely available. However, in the case of the HSQ affiliation subscale, for example, the nature of the suppressor effect can be to some degree appreciated by the fact that the EI latent variable had a substantial, positive association with SDE (*b* = .58), but SDE had a very small, unique association with affiliation (*b* = .06).

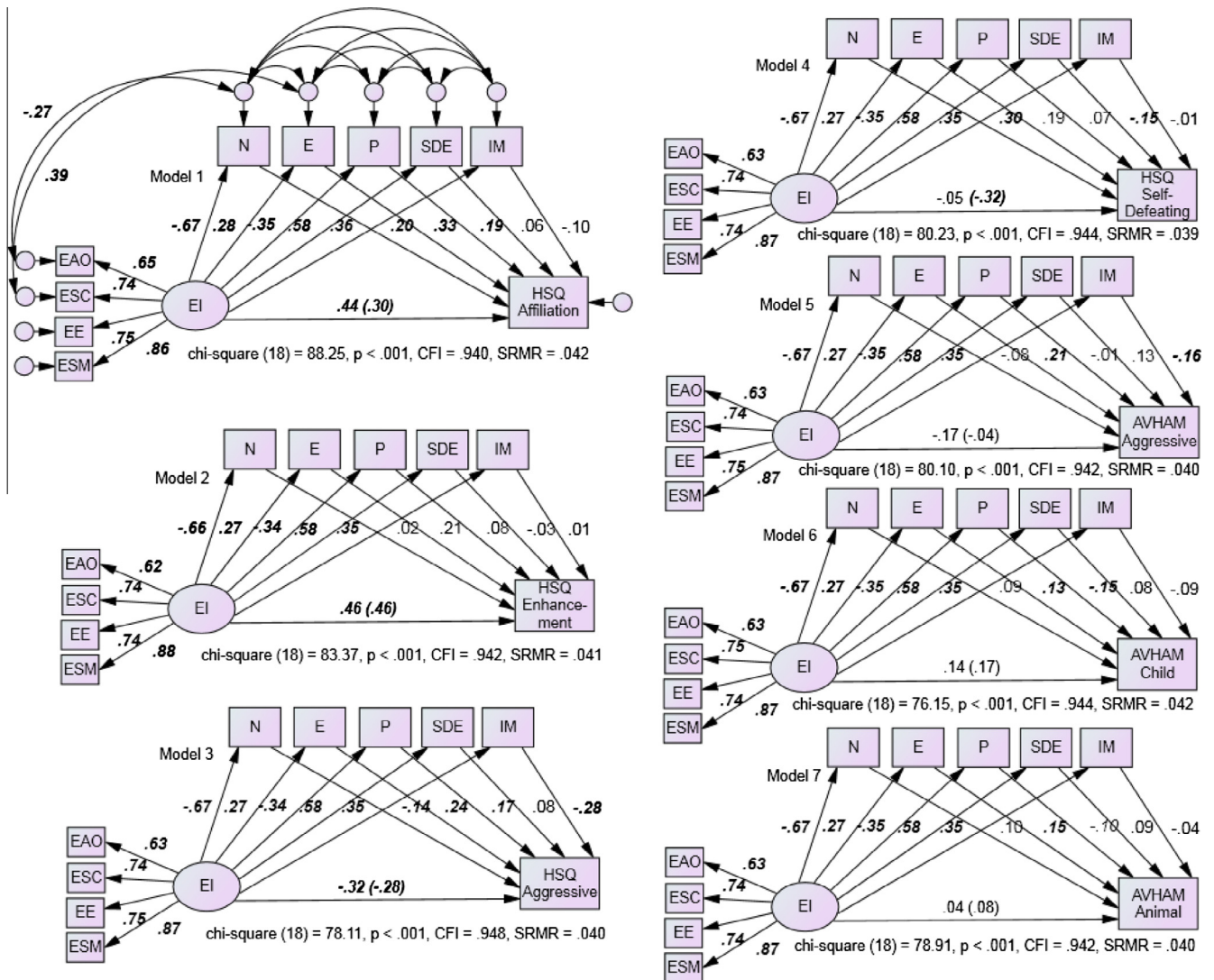
With respect to the humour AVHAM subscales (model 5 to model 7), none of the direct effects were observed to be statistically significant, although in the case of aggressive humour and child humour, the effects were in the hypothesized direction.

## 6. Discussion

Although a small number of the AVHAM items were associated with less than optimal simple structure, overall, the factorial validity associated with the AVHAM may be considered reasonably good, as three factors emerged based on the content of the items: aggressive, children, and animals. Interestingly, all three humour appreciation factors were correlated positively, suggesting the presence of a general humour appreciation factor, a phenomenon not observed with humour styles as measured by the HSQ (Martin et al., 2003). It is possible that the general humour appreciation factor is due to a positive mood effect. However, based on the results of this investigation, personality appears to be a factor, as extraversion was found to be a consistent correlate of individual differences in humour styles, which accords with Vernon, Martin, Schermer, and Mackie (2008), as well as appreciation. Thus, extraverts are likely to engage in all types of humour, and they are also more likely to appreciate various forms of humour.

It is noteworthy that although there appears to be a general humour appreciation factor, the three appreciation factors were nonetheless substantially unique. Ostensibly, all that distinguished the child and animal video clips is the subject matter, rather than the actual type of fundamental humour (e.g., incongruity resolution, puns). It remains a possibility that the degree to which an individual identifies with the subject matter may play a central

<sup>1</sup> Although there was no obvious theoretical justification for the inclusion of these correlated uniquenesses, their inclusion had little impact on the estimation of the direct effects, e.g., EI → HSQ Aggressive: –.310 (excluded) versus –.318 (included).



**Fig. 1.** The standardized direct and indirect effects of EI on the humour. Coefficients in bold and italicized were statistically significant ( $p < .05$ ). Coefficients in parentheses represent the effect of EI on humour excluding the mediating variables. For the purposes space, only the first model includes the error terms and the correlated residuals.

role in a taxonomy of individual differences in humour appreciation. Unfortunately, data relevant to whether the participants had children or pets was not collected. Future “multi-humour type/multi-subject matter” research is encouraged.

The correlation between aggressive humour style and aggressive humour appreciation was estimated at .35. Thus, although there is some overlap, there is an appreciable amount of divergent validity associated with the two dimensions. It is possible that more aggressive video-clips could be identified which may help increase the correlation between the two dimensions. Notwithstanding this possibility, the results suggest that while some individuals may appreciate viewing an individual experience a humiliating incident, those same individuals are only somewhat inclined to engage in humour to facilitate such an incident. It may prove insightful to investigate the correlates associated with individual differences in discrepancies between HSQ aggressive and AVHAM aggressive scores. That is, individuals who score relatively high on AVHAM aggressive, but relatively low on HSQ aggressive, may possess a passive-aggressive personality, for example.

Positive correlations between typical EI performance and adaptive humour styles were observed in this investigation, which is consistent with previous trait-EI based investigations (e.g., Greven et al., 2008; Vernon et al., 2009). However, this investigation ex-

tended previous research by demonstrating a unique effect between EI and humour, controlling for personality and SDR. Thus, it may be suggested that EI may play a role in the manner in which individuals use humour. Of course, this study is non-experimental in nature, thus, causal inferences are not justified. By contrast, there was little in the way of effects between EI and humour appreciation. It may be the case that the newly developed measure of humour appreciation is not valid, however, it will be noted that extraversion correlated positively with all three humour appreciation dimensions, suggesting some level of validity. Although it may be useful in future research to examine the association between ability-EI and humour appreciation (and humour production), self-reported typical EI was selected as a construct in this investigation because the construct of humour styles has been framed as a trait (Martin et al., 2003).

In contrast to Martin et al. (2003), this investigation found several moderately sized correlations between SDR and the HSQ. It will be noted that Martin et al. measured SDR with the Marlowe-Crowne scale (M-C; Crowne & Marlowe, 1960), which has been criticised for its lack of psychometric properties (Barger, 2002). In this investigation, SDR was measured by the BIDR, which is arguably the best measure of SDR (Gignac, in press). The pattern of correlations was such that SDE and IM tended to correlate negatively

with the negative humour styles (aggressive and self-defeating) and positively with the positive humour styles (affiliation and self-enhancement). Thus, the HSQ may be suggested to be partly contaminated by SDR. By contrast, the AVHAM was found to be much less affected by SDR. Specifically, a lone correlation of  $-.18$  was observed between IM and the aggressive humour scale. Thus, the differential effects between SDR and humour styles/appreciation underscore their differences.

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