

HOT OR NOT? PERSONALITY AND ATTRACTION ON THE DANCE FLOOR

Luck, Geoff, Saarikallio, Suvi, Thompson, Marc,
Burger, Birgitta, & Toiviainen, Petri

Finnish Centre of Excellence in Interdisciplinary Music Research
University of Jyväskylä, Finland
geoff.luck@jyu.fi

Abstract

Previous research has shown that personality plays a significant role in interpersonal attraction. We took this issue to the dance floor, and investigated how personality characteristics of both observers and dancers affect the former's attractiveness ratings of the latter. Sixty-two heterosexual adult participants watched 48 short audio-visual point-light animations of eight male and eight female adults dancing to Techno, Pop, and Latin music. Participants rated perceived skill of each dancer, and the likelihood with which they would go on a date with them. Both dancers' and observers' personality characteristics were assessed using the Big Five Inventory. Multivariate analyses of variance (MANOVAs) revealed some fascinating insights into the ways in which personality shapes interpersonal attraction on the dance floor. Both men and women perceived more Neurotic and less Agreeable opposite sex individuals to be more skilled dancers, and more Neurotic opposite sex individuals to be more datable, with women additionally preferring men who were more agreeable. Men preferred more Extraverted female dancers, while women preferred less Extraverted, but more Open and Conscientious male dancers. Higher ratings of opposite sex dance skill were given by men scoring low, but women scoring high, on Openness and Neuroticism. Finally, men preferred more Extravert but less Agreeable female dancers, while women preferred less Extravert, more Open, and more Conscientious male dancers.

Keywords: Big Five, interpersonal attraction, dance moves

1. Introduction

The role of personality in interpersonal attraction has received a great deal of attention since Terman's (1938) pioneering work on the subject. Since then, hundreds of studies have examined relationships between personality and a range of issues related to attraction and relationship success (see Cooper & Sheldon, 2002, for an extensive review). Despite this wealth of research, clear-cut and reliable connections have yet to be established. Some authors claim that similarity of personalities drives attraction and long-term compatibility (Byrne, 1971; Luo & Klohnen, 2005). Others propose that it is differences in personality characteristics which drive mating and satisfaction (Winch, 1958; Hinde, 1997). We decided to take this

issue to the dance floor. Specifically, we were interested in whether a person's personality is revealed in their dance movements, and, if so, whether observers are more attracted to dancers with personality characteristics similar or different to their own.

Relationships between people's personality and the way they dance to music have been identified in two previous studies (Luck, Saarikallio, & Toiviainen, 2009; Luck, Saarikallio, Burger, Thompson, & Toiviainen, 2010). These studies measured personality using the Big Five model, in which personality is conceptualised in terms of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Costa and McCrae,

1992). The clearest connections between personality and movement were observed for Extraversion and Neuroticism. Specifically, Extraversion was associated with faster movement of the head, hands, and centre of mass, as well as higher levels of kinetic energy (Luck et al., 2009), and increased amounts of "local movement", "global movement", "hand flux", "head speed", and "hand distance" (Luck et al., 2010). Patterns of behaviour were essentially in line with typical behaviour exhibited by individuals scoring highly on Extraversion, who tend to be expressive of positive emotions, energetic, and looking for stimulation. Neuroticism, on the other hand, was positively related to accelerated and jerky movement, particularly of the head, hands, feet, and centre of mass (Luck et al., 2009; Luck et al., 2010), and negatively related to levels of "global movement", "hand flux", "head speed", and "hand distance" (Luck et al., 2010). These patterns of behaviour are consistent with the elevated levels of anxiety and depressed mood typically exhibited by individuals scoring highly on Neuroticism.

Personality not only influences the types of movements people make while listening to music, but also the synchronisation of those movements with the music being danced to. Luck, Saarikallio, Burger, Thompson, and Toiviainen (2012), for example, identified positive relationships between high vs. low personality scores and synchronisation accuracy for Openness (ankles, wrists, shoulder, and neck), Conscientiousness (ankles, shoulder, and neck), and Agreeableness (ankles and right wrist). Negative relationships were observed for Extraversion (left wrist) and Neuroticism (ankles). Overall, the clearest pattern of results was observed for Openness, with high scorers synchronising body parts along multiple planes of movement.

Taken together, these studies suggest that people embody their personality characteristics in the way they dance to music. But are observers sensitive to this information?

Certainly, personality can be inferred from other types of body movement (e.g., Ball & Breese, 2000; Kuft, Poteat, & Kluff, 2006), with at least one study employing the Big Five model of personality (Koppensteiner

& Grammer, 2010). The latter authors identified relationships between perceptions of the Big Five and the movement patterns of political speakers, examining quality and amount of motion, as well as activation of different body parts. They found that perception of Openness was related to small head movements, as well as pronounced changes in movement direction, and that Conscientiousness was related to small head movements. Extraversion was associated with high overall activity, with only small fluctuations in amplitude of movement, and with the arms dominating over all other body parts. Agreeableness was associated with low overall activity interrupted by phases of high activity, and limited vertical arm movement. Finally, Neuroticism was associated with small head movements, jerky transitions from one peak of activity to the next (i.e., sudden changes in amplitude height), and changing dominant activation of different body parts.

Given the above findings, as well as research which suggest that "thin slices" of behaviour are enough on which to base quick and accurate judgments of other people's personality (Albright, Kenny, & Malloy, 1988; Ambady & Rosenthal, 1992; Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004), it seems likely that observers would be able to infer at least some personality characteristics from dance movements. If so, how might those inferred characteristics influence an observer's ratings of dance move attractiveness? And how might the observer's own personality characteristics affect such judgments? One possibility is that observers find dancers with personality characteristics similar to their own more attractive. Another possibility is that, as the saying goes, opposites attract, and observers find dancers with personality characteristics different to their own more attractive.

To examine these issues, we presented a series of point-light representations of males and females, who's personality characteristics were assessed using the Big Five Inventory, dancing individually to Techno, Pop, and Latin music to observers who's personality characteristics were similarly assessed. The observers' task was to rate perceived

skill of each dancer, and the likelihood with which they would go on a date with them.

We predicted that observers would in general be more attracted to dancers with similar personality characteristics, but that certain personality characteristics would be more attractive overall. Precisely what these most attractive characteristics would be, however, was hard to predict. We also hypothesised that males and female observers would differ in the characteristics they found attractive in opposite sex dancers.

2. Method

2.1. Participants

Sixty-two heterosexual adults (mean age = 24.68 years, 34 females) participated in the study, and received a movie ticket as payment for their time.

2.2. Stimuli and procedure

Participants were presented with 48 short (30 s) audiovisual point-light animations of adults dancing to music. Stimuli were comprised of eight males and eight females, each dancing to three songs representative of Techno, Pop, and Latin genres. Presentation was via an Apple iMac computer and a specially-written Max/MSP patch. During presentation of each stimulus, participants responded to two questions regarding the dancer: 1) How well are they dancing? 2) Would you go on a date with them? Re-

sponses were given via seven-point Likert scales. Participants were able to repeat each stimulus as many times as they liked. After answering both questions for each stimulus, they moved onto the next.

2.3. Personality assessment

The personality of both the dancers in the point-light stimuli and the participants to whom they were presented were assessed using the 44-item version of the Big Five Inventory.

3. Results

Data were analysed separately for male participants watching female dancers and female participants watching male dancers. In both cases, ratings of dance skill and dancer datability, as well as personality scores of both dancers and participants, were split into low and high groups by selecting values below the 33rd percentile and above the 67th percentile, respectively. Ratings of dance skill and datability are shown in **Figure 1** and **Figure 2**, respectively.

The effect of high-low dancer and participant personality on participants' ratings of dance quality and datability were subsequently examined by running a series of multivariate analyses of variance (MANOVAs), one for each of the five personality dimensions.

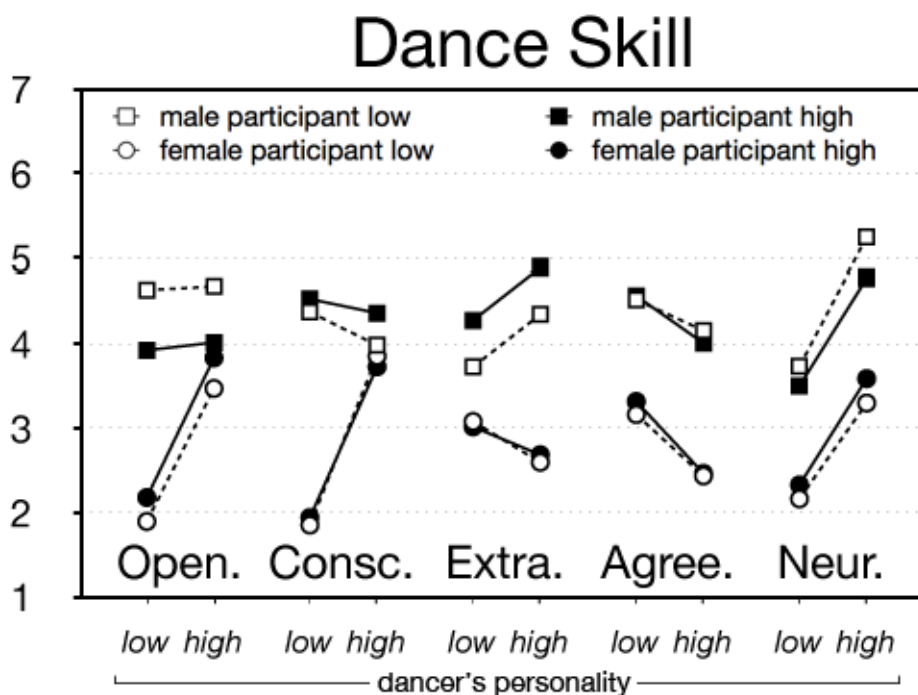


Figure 1. Effect of dancer and participant personality characteristics on participants' ratings of dance skill. Male participants rated female dancers, and female participants rated male dancers.

3.1. Dance skill

3.1.1. Men watching women

For male participants watching female dancers, there were significant main effects of dancer Conscientiousness scores, $F_{(1, 656)}=4.35$, $p=.037$, dancer Extraversion scores, $F_{(1, 656)}=28.28$, $p=.000$, dancer Agreeableness scores, $F_{(1, 656)}=11.82$, $p=.001$, and dancer Neuroticism scores, $F_{(1, 656)}=93.91$, $p=.000$, on ratings of their skill on the dance floor. There were also significant main effects of participant Openness scores, $F_{(1, 656)}=27.65$, $p=.000$, participant Conscientiousness scores, $F_{(1, 656)}=5.71$, $p=.017$, participant Extraversion scores, $F_{(1, 656)}=17.45$, $p=.000$, and participant Neuroticism scores, $F_{(1, 656)}=9.08$, $p=.003$, on their ratings of dance skill. All other main effects and interactions were non-significant.

It can be seen from **Figure 1** that female dancers scoring high on Extraversion and Neuroticism, but low on Conscientiousness and Agreeableness, were rated by males as being better dancers. Male participants scoring high on Conscientiousness and Extraversion, but low on Openness and Neuroticism,

meanwhile, gave higher dance skill ratings overall.

3.1.2. Women watching men

For female participants watching male dancers, there were significant main effects of dancer Openness scores, $F_{(1, 800)}=101.03$, $p=.000$, dancer Conscientiousness scores, $F_{(1, 800)}=137.33$, $p=.000$, dancer Extraversion scores, $F_{(1, 800)}=4.05$, $p=.045$, dancer Agreeableness scores, $F_{(1, 800)}=21.95$, $p=.000$, and dancer Neuroticism scores, $F_{(1, 800)}=138.23$, $p=.000$, on ratings of their skill on the dance floor. There were also significant main effects of participant Openness scores, $F_{(1, 800)}=9.68$, $p=.002$, and participant Neuroticism scores, $F_{(1, 800)}=4.90$, $p=.027$, on their ratings of dance skill. All other main effects and interactions were non-significant.

Figure 1 reveals that male dancers scoring high on Openness, Conscientiousness, and Neuroticism, but low on Extraversion and Agreeableness, were rated by females as being better dancers. Female participants scoring high on both Openness and Neuroticism, meanwhile, gave higher dance skill ratings overall.

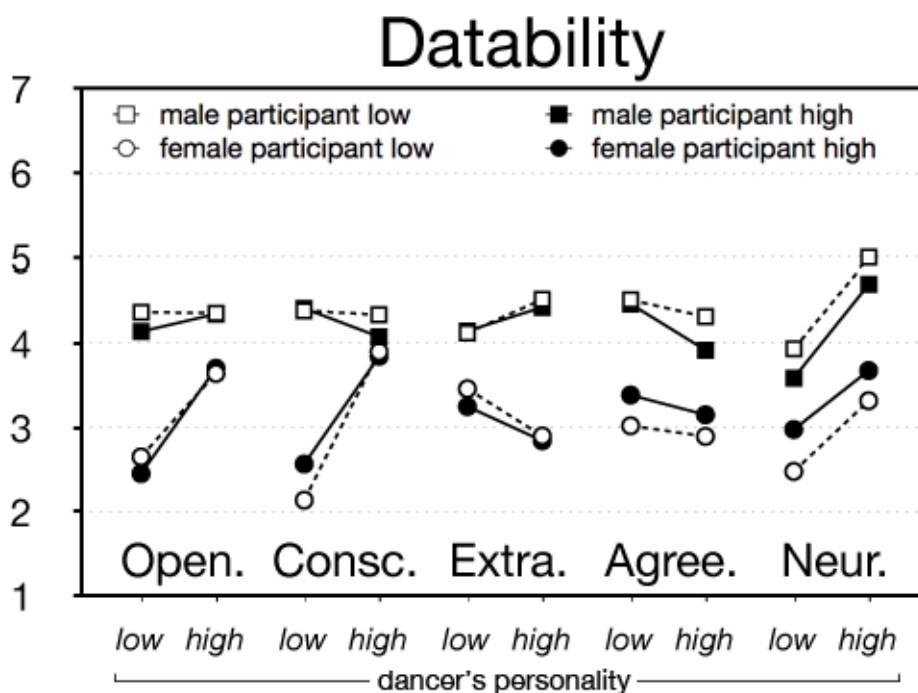


Figure 2. Effect of dancer and participant personality characteristics on participants' ratings of datability. Male participants rated female dancers, and female participants rated male dancers.

3.2. Datability

3.2.1. Men watching women

For male participants watching female dancers, there were significant main effects of dancer Extraversion scores, $F_{(1, 656)}=8.06$, $p=.005$, dancer Agreeableness scores, $F_{(1, 656)}=7.41$, $p=.007$, and dancer Neuroticism scores, $F_{(1, 656)}=54.79$, $p=.000$, on ratings of their datability. There was also a significant main effect of participant Neuroticism scores, $F_{(1, 656)}=7.31$, $p=.007$, on ratings of dancer datability. All other main effects and interactions were non-significant.

It can be seen from **Figure 2** that female dancers scoring high on Extraversion and Neuroticism, but low on Agreeableness, were rated by males as being more datable. Male participants scoring low on both Agreeableness and Neuroticism, meanwhile, gave higher datability ratings overall.

3.2.2. Women watching men

For female participant watching male dancers, there were significant main effects of dancer Openness scores, $F_{(1, 800)}=47.77$, $p=.000$, dancer Conscientiousness scores, $F_{(1, 800)}=87.04$, $p=.000$, dancer Extraversion scores, $F_{(1, 800)}=5.60$, $p=.018$, and dancer

Neuroticism scores, $F_{(1, 800)}=56.10$, $p=.000$, on ratings of their datability. There were also significant main effects of participant Agreeableness scores, $F_{(1, 800)}=8.60$, $p=.003$, and participant Neuroticism scores, $F_{(1, 800)}=16.98$, $p=.000$, on ratings of dancer datability. All other main effects and interactions were non-significant.

Figure 2 reveals that male dancers scoring high on Openness, Conscientiousness, and Neuroticism, but low on Extraversion, were rated by females as being more datable. Female participants scoring high on both Agreeableness and Neuroticism, meanwhile, gave higher datability ratings to male dancers.

4. Discussion

It's apparent that the pattern of ratings of both dance skill and datability were similar. This suggests that both scales measure a factor we might label *attractiveness*. Despite these similarities, however, there are some subtle differences between the ratings which make it worthwhile to consider them separately. In addition, there are a number of similarities and differences between male

and female participants' ratings worth noting.

First, male participants tended to give higher ratings overall of both dance skill and datability compared to female participants. Though the reasons for this are unclear, there are at least two possibilities. One is that men are less picky than women when judging the attractiveness of opposite-sex dancers. Another possibility is that the female dancers they were presented with simply *were* better and more datable than the male dancers presented to female participants. Given stereotypical concepts of how men and women differ in terms of both partner pickiness and dancing ability, both factors may have played a part.

Second, female participants seem to have been more strongly influenced by dancer personality characteristics than male participants, especially for Openness and Conscientiousness: Male dancers who scored high in these traits received significantly higher ratings of dance skill and datability from female participants. This also supports the view that women are more choosy when assessing men's attractiveness.

Third, for both Conscientiousness and Extraversion, male and female participants gave opposite patterns of responses. For example, as noted above, female participants gave higher skill and datability ratings to male dancers scoring high in Conscientiousness, while male participants gave higher skill ratings to female dancers scoring low in Conscientiousness. This pattern is reversed for Extraversion, with male participants rating female dancers scoring high in extraversion as more datable, and female participants rating male dancers scoring low in Extraversion as more skilled and more datable.

As regards general effects of dancer personality on skill ratings, men rated female dancers scoring high on Extraversion and Neuroticism, but low on Agreeableness, as being more skilled, while women rated male dancers high in Openness, Conscientiousness, and Neuroticism, but low in Extraversion and Agreeableness, as being more skilled. Thus, although both men and women perceived more Neurotic and less

Agreeable opposite sex individuals to be more skilled on the dance floor, men preferred more Extraverted female dancers, while women preferred less Extraverted, but more Open and Conscientious male dancers.

As regards general effects of participant personality on their skill ratings, male participants scoring high on Conscientiousness and Extraversion, but low on Openness and Neuroticism, gave higher skill ratings to female dancers, while female participants scoring high on both Openness and Neuroticism gave higher skill ratings to male dancers. Thus, higher ratings of opposite sex dance skill were given by men scoring low, but women scoring high, on Openness and Neuroticism.

Concerning general effects of dancer personality on datability ratings, men rated female dancers scoring high on Extraversion and Neuroticism, but low on Agreeableness, as more datable, while women rated male dancers scoring high on Openness, Conscientiousness, and Neuroticism, but low on Extraversion, as more datable. Thus, although both men and women perceived more Neurotic opposite sex individuals to be more datable, men preferred more Extravert but less Agreeable female dancers, while women preferred less Extravert, more Open, and more Conscientious male dancers.

With regards to general effects of participant personality on their ratings of dancer datability, male participants scoring high on Neuroticism rated female dancers as more datable, while female participants scoring high on Agreeableness and Neuroticism rated male dancers as more datable. Thus, both men and women preferred opposite sex dancers who were more Neurotic, with women additionally preferring men who were more agreeable.

5. Conclusions

In the present study, both men and women who scored high on Openness preferred opposite-sex dancers who also scored high on Openness. Men who scored high on Conscientiousness preferred low-scoring women, but high-scoring women preferred

high-scoring men. Men who scored high on Extraversion preferred women who also scored high in Extraversion, but high-scoring women preferred low-scoring men. Both men and women who scored high in Agreeableness preferred low-scoring opposite-sex dancers. And both men and women who scored high in Neuroticism preferred high-scoring opposite-sex dancers.

So, are we attracted to others with personality characteristics similar to our own, or do opposites really attract? Evidence from the present study suggests that both may be true when it comes to attraction on the dance floor.

References

- Albright, L., Kenny, D. A., & Malloy, D. E. (1988). Consensus in personality judgments at zero acquaintance. *Journal of Personality and Social Psychology*, 55, 378–395.
- Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychological Bulletin*, 111(2), 256–274.
- Ball, G., & Breese, J. (2000). Relating personality and behaviour: Posture and gestures. In A. Paiva (Ed.), *Affective interactions: Lecture notes in computer science* (pp. 196–203). Berlin: Springer.
- Borkenau, P., Mauer, N., Riemann, R., Spinath, F. M., & Angleitner, A. (2004). Thin slices of behaviour as cues of personality and intelligence. *Journal of Personality and Social Psychology*, 86(4), 599–614.
- Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.
- Cooper, M. L., & Sheldon, M. S. (2002). Seventy years of research on personality and close relationships: Substantive and methodological trends over time. *Journal of Personality*, 70, 783–812.
- Costa, P. T., & McCrae, R. R. (1992). *NEO PI-R. Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Hinde, R. (1997). *Relationships: A dialectical perspective*. Hove, England: Psychology Press.
- Kluft, E. S., Poteat, J., & Kluft, R. P. (1986). Movement observations in multiple personality disorder: A preliminary report. *American Journal of Dance Therapy*, 9, 31–46.
- Koppensteiner, M., & Grammer, K. (2010). Motion patterns in political speech and their influence on personality ratings. *Journal of Research in Personality*, 44, 374–379.
- Luck, G., Saarikallio, S., & Toiviainen, P. (2009). Personality Traits Correlate With Characteristics of Music-Induced Movement. In J. Louhivuori, T. Eerola, S. Saarikallio, T. Himberg, P.-S. Eerola (Eds.), *Proceedings of the 7th Triennial Conference of the European Society for the Cognitive Sciences of Music* (pp. 276–279). Jyväskylä, Finland: University of Jyväskylä.
- Luck, G., Saarikallio, S., Burger, B., Thompson, M. R., & Toiviainen, P. (2010). Effects of the Big Five and musical genre on music-induced movement. *Journal of Research in Personality*, 44(6), 714–720.
- Luck, G., Saarikallio, S., Burger, B., Thompson, M. R., & Toiviainen, P. (2012). Relationships between personality and synchronization with music. *Manuscript in preparation*.
- Luo, S., & Klohnen, E. (2005). Assortative mating and marital quality in newlyweds: A couple-centered approach. *Journal of Personality and Social Psychology*, 88, 304–326.
- Terman, L. M. (1938). *Psychological factors in marital happiness*. New York: McGraw-Hill.
- Winch, R. F. (1958). *Mate selection*. New York: Harper.