

Individual Differences and Romantic Compatibility: The Relationship Between Personality Traits, Eligibility and Ideal Partner Preference

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I, Beth Emma Anderson, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

For LC and RW, with gratitude

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ABSTRACT

This thesis explores the relationship between personality traits and ideal partner preference. It presents a review of the topic's salient literature, specifically, research on: theories of romantic attraction; individual differences in ideal partner preference; online and offline platforms for partner selection; personality factors, relationship initiation, maintenance and satisfaction; and tools to assess compatibility. Eight empirical studies of the relationship between the *Big Five* personality traits, two *Dark Triad* traits (psychopathy and Machiavellianism), eligibility and expressed preference for an ideal partner are presented. The thesis incorporates development, piloting and validation of a novel, forced-choice instrument for measuring the trade-offs that occur in partner selection.

Studies 1 and 2 test a pilot version of the Ideal Partner Questionnaire (IPQ) instrument, to identify the latent constructs that underpin decisions about ideal partner preference and test their relationship with self- and objectively-rated eligibility and personality traits. Study 3 builds on this by testing the IPQ domains with a larger sample, to refine the tool further and explore Big Five personality and gender differences in expressed preference. Study 4 tests the relationship between ideal partner preference, as measured by the IPQ, eligibility and the dark traits Machiavellianism and subclinical psychopathy. Study 5 tests the relationship between ideal partner preference, as measured by the IPQ, eligibility and emotional intelligence. Studies 6 and 7 test whether romantic beliefs and qualitatively expressed preferences predict ideal partner preference, as measured by the IPQ. Study 8 uses data gathered from couples to determine the extent to which ideal preference correlates to personality and relationship satisfaction in established relationships,

rather than in the abstract. Lastly, the potential utility of the IPQ, implications for future research and limitations are discussed.

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CHAPTER 1: Literature Review

1.1. Why study romantic relationships?

Close, personal relationships are a ubiquitous and pervasive part of everyday life (Acitelli, Kenny, & Weiner, 2001; Berscheid, 1999; Finkel, Simpson, & Eastwick, 2017; C. S. Hendrick & Hendrick, 2000); they are characterised by a “strong, frequent and diverse interdependence” that endures over time (Kelley, 1983, p. 38). Impacting on all aspects of society, including health, economics, law and politics, these relationships are of fundamental importance to academic study across a wide range of disciplines (Kelley, 1979; Reis, 2007). Research in this area is central to the field of psychology (Finkel, Eastwick, Karney, Reis, & Sprecher, 2012; Kelley, 1979; Reis, 2007) and more generally provides transferable learning for relationship science (M. S. Clark & Reis, 1988).

Essential to human existence, dyadic relationships are the most important of all close relationships (Hazan et al., 2000; Kelley, 1979; Kelley et al., 1983). Within this category, romantic dyads are particularly critical to consider, given their universal relevance and impact on a wide range of outcomes (Bartels & Zeki, 2004; H. E. Fisher, 1994b). Characterised by voluntary attachment, reciprocal attraction, expressed affection and intensity, romantic relationships are distinct from - but often associated with - broader romantic activity such as flirting, fantasising or casual sex (Collins, Welsh, & Furman, 2009; Sprecher & Metts, 1989). Romantic relationships are driven by the shared pursuit of mutually beneficial goals (Finkel & Simpson, 2015). These relationships involve the unique combination of two people’s individual characteristics, development of a single psychological entity and dynamic change over time (Finkel et al., 2017).

Romantic dyads have been relatively understudied within the field of social relationships, not gaining the attention of psychologists until the late-1980s (A. Aron,

Dutton, Aron, & Iverson, 1989; M. S. Clark & Reis, 1988; Feeney, Noller, Roberts, Knoller, & Roberts, 2000; Simpson, 1990). Understanding the psychological mechanisms that underpin partner preference and selection is now a growing concern. Culturally normative in Western societies, long-term dyadic relationships are a proxy measure of successful mate choice and an embodiment of individual romantic values (E. Van Acker, 2017). Well-functioning romantic relationships predict a number of health and wellbeing benefits, including reduced stress, higher self-esteem, lower risk-taking and feelings of fulfilment (Braithwaite, Delevi, & Fincham, 2010; Le & Agnew, 2001; H. Patrick, Knee, Canevello, & Lonsbary, 2007; Powers, Pietromonaco, Gunlicks, & Sayer, 2006).

The process of engaging in romantic relationships can also be as stressful as any other major life event (Bajoghli et al., 2014; Kendler, Karkowski, & Prescott, 1999); seeking the perfect match is a time-consuming and costly exercise (Mortensen, 1988). Consequently, many people commit to long-term relationships armed with only partial information about their partner and the likelihood of relationship success, rendering it a highly risky endeavour (Fallesen & Breen, 2016). Poorly functioning romantic partnerships can lead to mental ill-health, low self-worth and maladaptive coping (DiBello, Rodriguez, Hadden, & Neighbors, 2015; Knee, Canevello, Bush, & Cook, 2008; La Greca & Harrison, 2005; Simon & Barrett, 2010).

The dissolution of romantic relationships is also associated with a range of negative outcomes, including psychological distress (Donald, Dower, Correa-Velez, & Jones, 2006), dissatisfaction with life (Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011), a grief response (Kaczmarek, Backlund, & Biemer, 1990), anger (Sbarra, 2006) and social exclusion (Garimella, Weber, & Cin, 2014). Breaking-up is common, however: 86 per cent of people have experienced the end of a relationship

(Battaglia, Richard, Datteri, & Lord, 1998) and three-quarters of married couples who opt for a trial separation go on to divorce (Gottman, 2014). Approximately two-fifths of all marriages in the United States (US) alone are likely to end in divorce (US Department of Health and Human Services, 2015), costing the economy in the region of \$112bn annually (Scafidi, 2008). Cohabitation without marriage offers no greater guarantee of relationship longevity (Kennedy & Ruggles, 2014), yet relationship permanence of some kind is the norm in Western cultures. In the US, for example, marriage promotion has been a significant area of policy and legislation for several decades; while the specific interventions favoured and funded can vary year-on-year (Finkel et al., 2017), the overall trend is set to continue (Avishai, Heath, & Randles, 2016).

In summary, dyadic romantic relationships are of huge significance at the individual, societal and economic level, yet people frequently choose a partner to whom they are not well-suited over the long term. Increasing our understanding of partner preference and its impact on long-term romantic compatibility is, therefore, of critical importance to scientific study and one of the aims of this thesis.

1.2. Theoretical Models in Relationship Science

1.2.1. Conceptualising romantic relationships. The study of romantic relationships is positioned within a landscape of well-established and evolving psychological theory. The wealth of scientific theory offers rich, diverse perspectives (Finkel et al., 2017), while also posing challenges in terms of conceptual synthesis (Durante, Eastwick, Finkel, Gangestad, & Simpson, 2016; Finkel & Baumeister, 2010; Finkel & Eastwick, 2015; Finkel & Simpson, 2015; Finkel et al., 2017).

Romantic relationships have been explained, for example, in terms of self-expansion theory (A. Aron & Aron, 1986; E. N. Aron & Aron, 1996), self-determination theory

(Deci & Ryan, 1985; La Guardia, 2008; R. M. Ryan & Deci, 2000) and uncertainty reduction theory (Berger & Calabrese, 1975; M. R. Parks & Adelman, 1983; Redmond, 2015; Whitchurch, Wilson, & Gilbert, 2011).

Attachment (Bowlby, 1969, 1973) has been a particularly visible concept within relationship science (Collins et al., 2009). Rooted in evolutionary theory, attachment describes how infants are biologically driven to form relationship bonds with care-givers as a means of maximising well-being and minimising stress. The quality and experience of this attachment process is consolidated during development and determines the mental model that frames interpersonal relationships in later life (Ainsworth, Blehar, Waters, & Wall, 2014; Bowlby, 1969). The principles of attachment extend beyond infancy to childhood, adolescence and adulthood (Main, Kaplan, & Cassidy, 1985; Morris, 1982).

The role of attachment in romantic relationships has been of considerable interest to researchers over recent years (Feeney & Noller, 1990; Fraley & Shaver, 2000; Hazan et al., 2000; Hazan & Shaver, 1987). It encompasses pair-bonding, caregiving and sex (Hazan & Shaver, 1987). Attachment style in this context is typically classified as *secure*, *avoidant* or *anxious-ambivalent* (Ainsworth, Blehar, Waters, & Wall, 1978); the style adopted predicts the ability to manage negative emotions, feelings and experiences. Secure individuals recognise discomfort, are less distressed by it and are more likely to seek support. Avoidant individuals are distressed by negativity, yet refrain from expressing discomfort to prevent conflict. Anxious-ambivalent individuals are highly sensitive to, and are expressive about, discomfort (Feeney, 1999; Simpson, 1990). Secure attachment in romantic relationships correlates with stable, satisfactory and trusting relationships (Mikulincer & Shaver, 2009); people demonstrating secure attachment seek romantic partners who also

function in this way (Holmes & Johnson, 2009). Avoidant attachment predicts romantic relationship dissolution (Feeney & Noller, 1992). Anxious-ambivalent attachment in romantic relationships predicts escalation of conflict and high stress (Campbell, Simpson, Boldry, & Kashy, 2005; Simpson, Rholes, & Phillips, 1996).

In the abstract (i.e., when considering hypothetical partners), people prefer partners who demonstrate secure attachment irrespective of their own attachment style (Holmes & Johnson, 2009). In established relationships, complementary attachment styles can be functional (Holmes & Johnson, 2009). Attachment is also correlated to personality, such that secure attachment predicts emotional stability and extraversion (Shaver & Brennan, 1992a); both avoidant and anxious attachment predict lower openness and conscientiousness (Nofle & Shaver, 2006; Shaver & Brennan, 1992a). Anxious attachment also predicts higher neuroticism (Nofle & Shaver, 2006).

Proponents of the ethological framework offered by attachment theory praise its focus on understanding behaviour in the context of strategies to increase reproductive fitness (Fraley & Shaver, 2000). This standpoint assumes, however, that all decisions related to partner selection are innately strategic (Hazan et al., 2000); it does not easily take into account the dynamic or contextual elements of a dyadic relationship, which we know play a significant role in determining cognitions, preferences and outcomes (Finkel et al., 2017). Indeed, evolutionary theory has developed in a largely disconnected way to “mainstream” study of relationships (Finkel et al., 2017, p4.4); therefore, more integration of relationship science theories and methods are warranted (Durante et al., 2016; Eastwick, Harden, Shukusky, Morgan, & Joel, 2017; Finkel & Eastwick, 2015; Finkel et al., 2017).

Interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959) provides a framework for understanding how two people influence each other through their interactions (Kelley et al., 2003). By definition, therefore, it encompasses issues and processes of attachment (Collins et al., 2009); it can also be understood within the wider social and environmental context (Arriaga, Agnew, Cappelz, & Lehmler, 2008). Following the principles of social exchange, interdependence theory rests on the assumption that people invest in a relationship because they will benefit from it (Blau, 1964; Rusbult & Buunk, 1993). The model is intentionally broad and dynamic, capturing the “ongoing chains of mutual influence between two people” (M. S. Clark & Reis, 1988, p. 611). Applied to interpersonal romantic relationships (Kelley, 1979; Levinger & Snoek, 1972), interdependence is one of the most prominent and useful theoretical models (M. S. Clark & Reis, 1988; Finkel et al., 2017); it posits that mutual dependence varies according to the interests of both parties and that these interests, in turn, predict behavioural outcomes (Kelley et al., 2003; Rusbult & Buunk, 1993).

Comparison is a core component of interdependence theory: within the context of romantic attachment, this means that relationship satisfaction and commitment is determined by the extent to which the relationship matches or falls short of what is expected (Campbell, Simpson, Kashy, & Fletcher, 2001; Fletcher, Simpson, & Thomas, 2000; Fletcher, Simpson, Thomas, & Giles, 1999; Kelley & Thibaut, 1978; Thibaut & Kelley, 1959). Expectation in this context is two-fold, relating first to the quality of relationship the person thinks they deserve, and secondly to the quality of alternative relationships in which they could be engaged (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959). As a result, people employ strategies to build and maintain romantic relationships, such that gaps in expectation

are minimised, investment in the relationship is rewarded and risks are mitigated (Agnew & Le, 2015; Dainton, 2000; Dindia & Canary, 1993; Murray, Holmes, & Collins, 2006; Rusbult, Agnew, & Arriaga, 2011). Stafford and Canary (1991) identified five core maintenance strategies in this regard: *positivity* (a friendly, upbeat demeanour); *openness* (direct communication and self-disclosure); *assurances* (explicit acknowledgement of the relationship's value); *social networks* (shared friendships); and *sharing tasks* (shared responsibility for instrumental, day-to-day activities). Higher dependence also relates to: increased partner idealisation (Murray & Holmes, 1997); self-sacrifice (Van Lange et al., 1997); perceptual derogation of potential alternative partners (Simpson, Gangestad, & Lerma, 1990); cognitive interdependence (Agnew, Van Lange, Rusbult, & Langston, 1998); and more accommodating behaviour (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991).

In summary, two theoretical models dominate the literature: attachment and interdependence theory (Finkel et al., 2017). Interdependence theory is particularly useful given that it is well-established, encompasses the concept of attachment and enables testing of the factors that predict both stability and change (Collins et al., 2009). This thesis is founded on a core assumption of interdependence theory: that people have expectations of their relationships that determine their decisions about them, as well as their feelings and behaviour when in them.

1.2.2. Conceptualising partner preference.

1.2.2.1. Assortative preference. Two contrasting models of partner preference feature in the relationship psychology literature: *homogeneous preference* and *assortative preference* (Kurzban & Weeden, 2005). Homogeneous preference asserts that there are broad classifications of preference about which people agree (D. M. Buss, 2007; D. M. Buss & Schmitt, 1993). In this model, while people may idealise a

mate who is highly desirable on a range of dimensions, their actual partner selection behaviour is predicted by their own “value” as a mate (Kurzban & Weeden, 2005; Todd, 1997). Assortative preference (D. M. Buss, 1984) posits that people seek specific characteristics in a mate that will differ from one person to the next (Berscheid, Dion, Walster, & Walster, 1971; Walster, Aronson, Abrahams, & Rottman, 1966). Assortative mating is a commonplace phenomenon and, accordingly, has taken precedence in the literature for several decades (D. M. Buss, 1984; Thiessen & Gregg, 1980; Vandenberg, 1972).

Assortative preference can be positive or negative. Positive assortative mating (homogamic mating) describes the similarity-matching hypothesis: people consider an ideal mate to be one who most closely matches their own profile on a range of dimensions (Feng & Baker, 1994; Gonzaga, Campos, & Bradbury, 2007; Luo & Klohnen, 2005; Thiessen, Young, & Delgado, 1997). In negative assortative mating (heterogamic mating), opposing or complementary characteristics are sought (e.g., Watson et al., 2004). Assortative mating can be trait-specific, or can relate to the overall profile of a partner (Śmieja & Stolarski, 2016). It is attributable largely to initial partner selection, rather than to convergence of traits over time (Bleske-Rechek, Remiker, & Baker, 2009; Zietsch, Verweij, Heath, & Martin, 2011), thus rendering this stage of the romantic relationship particularly critical for scientific study (M. C. Keller, Thiessen, & Young, 1996).

Evidence of positive assortative mating is strongest on demographic dimensions (Śmieja & Stolarski, 2016; Watson et al., 2004); e.g., age, sociodemographic status, religion, race, political affiliation and education (Belot & Francesconi, 2013; D. M. Buss, 1985; Hwang, 2013; Klofstad, McDermott, & Hatemi, 2012; Nagoshi, Johnson, & Honbo, 1992; Watson et al., 2004). Conversely,

dissimilarity on these dimensions predicts relationship dissolution (Hill, Rubin, & Peplau, 1976). The importance of demographic similarity applies equally to dating couples as it does to those in established, long-term relationships (Bleske-Rechek et al., 2009). However, recent research has indicated that this occurs not because people actively seek demographic similarity, but because they are statistically more likely to spend time with people similar to them on these dimensions than with people who are not (Eastwick et al., 2017). These findings are consistent with the well-established theory of propinquity: people tend to fall in love with those who are familiar to them, as well as to those who are spatially and/or psychologically close (Festinger, Schachter, & Back, 1950). The propinquity theory applies to the sharing of physical and virtual space (Alvin Cooper & Sportolari, 1997).

Psychological assortment is also critically important, particularly for long-term relationships (D. M. Buss, 1985; M. C. Keller et al., 1996); studies in this area have focused heavily on individual differences in personality (Malouff, Thorsteinsson, Schutte, Bhullar, & Rooke, 2010). Personality describes the relatively stable attributes that characterise an individual's distinctive behaviour, emotions and temperament (Mairesse, Walker, Mehl, & Moore, 2007; Mund, Finn, Hagemeyer, & Neyer, 2016). The five-factor personality model (Goldberg, 1981, 1993), commonly conceptualised as the *Big Five* (McCrae & Costa, 1997) encompasses: *Openness to Experience, Conscientiousness, Extraversion, Agreeableness* and *Neuroticism* (also called *Emotional Stability*). The model is one of the most established, robust, broadly applicable and widely utilised frameworks for understanding personality (Digman, 1996; Oliver P. John & Srivastava, 1999; McCrae, John, & Costa, 1992; Mund et al., 2016; Wiggins, 1996).

With few exceptions (e.g., Shiota & Levenson, 2007), the majority of studies indicate the dominance of positive assortment for personality (Botwin, Buss, & Shackelford, 1997; D. M. Buss, 1985; Buston & Emlen, 2003; D. E. Byrne, 1971; Dijkstra & Barelds, 2010; Dryer & Horowitz, 1997; Gebauer, Leary, & Neberich, 2012; Gonzaga et al., 2007; Gonzaga, Carter, & Buckwalter, 2010; Schmitt, 2002; Smeaton, Byrne, & Murnen, 1989; Watson, Beer, & McDade-Montez, 2014). Effects tend to be stronger for specific traits than for overall domains (McCrae et al., 2008). There is consistent evidence of particularly strong congruence in respect of Agreeableness and Conscientiousness (Espinel & Martín-Buro, 2011; Rammstedt & Schupp, 2008). For Extraversion, Openness and Neuroticism, results are more mixed (Espinel & Martín-Buro, 2011; Figueredo, Sefcek, & Jones, 2006; Rammstedt & Schupp, 2008). In addition, personality traits are appraised differently at different relationship stages; e.g., high Conscientiousness, Agreeableness and Extraversion and low Neuroticism are linked to increased initial attraction (Figueredo et al., 2006).

Similarity is also important in a range of personality traits outside the Big Five framework. People seek partners who are similar to them in terms of: hopefulness, honesty and dependability (D. M. Buss, Shackelford, Kirkpatrick, & Larsen, 2001; Weber & Ruch, 2012); communication-related values (Burlinson, Kunkel, & Birch, 1994); and attitudes to love (Morrow, Clark, & Brock, 1995), for example. Positive assortment effects have also been found for dark personality traits in romantic partners (Paulhus & Williams, 2002). A study of heterosexual couples found them to be more similar than dissimilar in levels of Machiavellianism, narcissism and psychopathy, after controlling for demographic factors (Kardum, Hudek-Knezevic, Schmitt, & Covic, 2016). Despite being a broadly unattractive trait, people high in psychopathy pursue similar others in both short- and long-term relationships

(Blanchard, Lyons, & Centifanti, 2016; Kardum et al., 2016); the effect is strongest among women high in primary psychopathy seeking long-term relationships (Blanchard et al., 2016; Kardum et al., 2016).

Perceived, rather than actual, similarity is particularly important for attraction at all stages of partner selection (Montoya, Horton, & Kirchner, 2008). While the relationship between actual similarity and attraction is significant, the effect size reduces as the length of relationship increases. Perceived similarity, however, is a strong predictor of attraction before relationships are formed, at the early stage of relationships and in existing relationships (Montoya et al., 2008; Tidwell, Eastwick, & Finkel, 2013). Higher personality congruence in longer-term relationships is likely driven by initial trait similarity, rather than personality convergence over time (Feng & Baker, 1994; Kardum et al., 2016). A meta-analysis of similarity studies (Montoya & Horton, 2013) identified the most prominent explanations of the positive relationship between attraction and similarity as the reinforcement model (Baskett, Byrne, & Hodges, 1971) and the information processing model (Ajzen, 1974; Tesser & Abraham, 1971). Reinforcement is driven by cognitive dissonance theory (Festinger, 1957), occurring subconsciously and serving to validate our psychological representations of the world such that there is no discrepancy between external stimuli and our internal logic (Baskett et al., 1971; D. Byrne, Rasche, & Kelley, 1974). The information processing perspective posits that attraction is a function of the type of information we have about a person, as well as the weight and attention we afford it. When the information we have about a person indicates they are likely to be more similar (and less dissimilar to us), this influences attraction positively (see reviews in: Montoya & Horton, 2013, 2014).

1.2.2.2. Romantic ideals.

1.2.2.2.1. Individual differences in ideals. The ideal partner profile differs from one person to the next (Eastwick, Finkel, & Eagly, 2011): one person's preferred characteristics in a mate are another's "deal-breakers" (Watson et al., 2004, p. 1029). Preference is both relative and absolute: people seek partners who are similar to them in personality (especially in terms of Conscientiousness, Extraversion, Agreeableness), while ideally wanting someone they deem more desirable, overall, as a romantic partner than they rate themselves (S. C. Clark, Dover, Geher, & Presson, 2005; Figueredo et al., 2006). This notion is linked to self-perception, such that people rating themselves highly on a particular trait will be more demanding of a partner in terms of the level of that trait they need to have to be deemed desirable (Campbell et al., 2001). An ideal partner is not only someone similar in personality, but also someone "who best meets one's goals, needs, demands and expectations" (Ináncsi, Láng, & Bereczkei, 2016, p. 138). As such, specifying preference involves self-assessment and subjective judgment; this is not straightforward, given that many people do not know what they want in a partner (Dijkstra & Barelds, 2010). Ideals are also driven by implicit preference: i.e. the "positive, spontaneous affective reaction" elicited by a particular person (Eastwick, Eagly, Finkel, & Johnson, 2011, p. 2).

It has been argued that ideals are malleable and subject to changes that render them a closer match to the characteristics of a current partner (Eastwick, Luchies, Finkel, & Hunt, 2014; Murray, Holmes, & Griffin, 1996b). Evidence in this regard is limited, however; early work in this area indicated that ideals are reasonably stable over time (Fletcher et al., 1999). This is likely to be an ongoing area of study, reminiscent of the same debate in respect of personality trait stability. There is now a broad consensus that personality traits are both stable and subject to some degree of

change, with the likelihood of this change decreasing over time (for review, see: Anusic & Schimmack, 2016). Given the complex, multi-dimensional nature of attraction (Markey & Markey, 2007; McCroskey & McCain, 1974), and the fact that relationship variables influence the aetiology of traits (South, Krueger, Elkins, Iacono, & McGue, 2016), it is feasible that a similar model applies to romantic ideals. This would mean that ideals are both reasonably stable and subject to some degree of change as a result of external factors.

Such a model would be consistent with evidence that ideals vary depending on the type of relationship sought - the more long-term, the more demanding one is of a potential partner (Castro & de Araújo Lopes, 2011; Fletcher, Tither, O'Loughlin, Friesen, & Overall, 2004). Not only do people looking for long-term relationships take into account more attributes when considering potential partners, but social and interpersonal skills are weighted more heavily under these circumstances (Castro & de Araújo Lopes, 2011; Regan, Levin, Sprecher, Christopher, & Gate, 2000). In general, internal qualities (e.g., personality traits) are particularly important when considering long-term partners, whereas assessment of external qualities (e.g., status or attractiveness) plays a greater role in determining partnerships for short-term relationships (Campbell et al., 2001; Fletcher et al., 1999, 2004). A US-based study of young adults' preferences (Regan et al., 2000) found evidence, however, that internal qualities are deemed preferable to external qualities for both short- and long-term relationships; this fits with the theory that, when choice is not limited, both men and women prefer a well-rounded partner with both good looks and status (Li & Kenrick, 2006).

There are also some qualities that are desirable for some types of relationship, but undesirable for others. Risk-takers, for example, are appealing for short-term

liaisons, but not considered to be long-term prospects (Sylwester & Pawłowski, 2011). People give more weight to traits deemed undesirable than to positively appraised qualities (Jonason, Garcia, Webster, Li, & Fisher, 2015). These traits have more significance in long-term - compared to short-term - relationships and correlate positively with self-rated eligibility; i.e. more eligible people have more deal-breakers (Jonason, Garcia, Webster, Li, & Fisher, 2015)

Fletcher et al.'s 'Ideal Standards Model' (ISM) is the most prominent thesis on the impact of ideals on assortative mating (Fletcher et al., 1999). Rooted within evolutionary theory, the ISM describes how the relative merits of a potential partner's attributes are assessed in order to determine whether selecting that person as a mate will maximise reproductive fitness (D. M. Buss & Schmitt, 1993; Gangestad & Simpson, 2000). The model specifies these attributes as belonging to three distinct domains: *warmth and trustworthiness*; *attractiveness and vitality*; and, *status and resources* (Fletcher et al., 1999). In the ISM, each domain offers a different route to reproductive fitness, with the trade-offs made in partner selection being driven by preference for one route over another. The ISM is situated in the context of interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959) and, as such, discrepancies between actual and expected partner qualities trigger cognitive or behavioural adjustments aimed at reducing this gap (Campbell & Fletcher, 2015).

1.2.2.2.2. Gender differences in ideals. When in established long-term relationships, men and women seek broadly similar attributes (Eastwick et al., 2014). At the relationship initiation stage, however, gender predicts variance in romantic ideals - particularly when a long-term relationship is the goal (Belot & Francesconi, 2013; Eastwick et al., 2014; Li, Bailey, Kenrick, & Linsenmeier, Joan, 2002). Under such circumstances, social status (for example) is more important to women than

men, while sexual attractiveness is more important to men than women (Li et al., 2013; Regan et al., 2000). These findings are consistent with evolutionary theory, which indicates: men will prioritise physical attractiveness, an indicator of reproductive fitness, over other attributes; and women will prioritise financial and educational status, indicators of the potential to protect and provide (D. M. Buss, 1989; Feingold, 1992; Fletcher et al., 2004). However, evolutionary theory alone is insufficient for explaining the complex influence of gender on preference.

Social norms moderate the relationship between gender and preference, such that economically and politically empowered women have lower preference for men with resources (Eagly & Wood, 1999). Within the same context, men place lower importance on women as home-makers (Eagly & Wood, 1999). This socio-structural perspective on preference contrasts with evidence that women with higher socio-economic status demand more from their partner in terms of resources - not less (Todosijević, Ljubinković, & Arančić, 2003; Townsend & Levy, 1990; Wiederman & Allgeier, 1992).

A review of mate preferences spanning over 50 years illustrated how cultural and societal norms also affect long-term romantic preference (D. M. Buss et al., 2001). Consistent with Eagly and Wood (1999), Buss et al. found that when considering preference now compared to several decades ago: i) men place less importance on women's domestic capabilities; and ii) financial stability, physical attractiveness, mutual attraction and love has become more important for both men and women. When interpreting expressed preference, it is also important to consider the possibility of differential conceptualisation of the same characteristic. Humour provides a useful example: most people would specify this as a characteristic of their ideal partner, to the extent that GSOH (good sense of humour) entered the common

lexicon over 20 years ago (Vlckova, 1996). Bressler, Martin and Balshine (2006) found that for men, this refers to a partner who finds them funny, whereas for women, it means a partner who makes them laugh.

In summary, people want different things from their romantic partners: the qualities and characteristic that makes someone a suitable prospect to one person would rule them out to another. Gender plays a significant role in this regard, as does the type of relationship sought. Overall, people seek others who are like them on a range of dimensions, including personality, values and sociodemographic status. The ISM is the most prominent model in the romantic preferences literature but there is scope to expand this, to address a wider range of attributes considered and encompass a broader theoretical perspective.

1.3. How Do People Choose Romantic Partners?

1.3.1. Modes of partner selection.

1.3.1.1. Offline partner selection. Opportunities to meet potential romantic partners are not randomly distributed (Bozon & Heran, 1989; Kalmijn & Flap, 2001). In economic terms, the pool of potential partners from which one can draw is determined by both supply-side and demand-side factors (for summary, see: Kalmijn & Flap, 2001). Supply-side factors determine the range and type of people with whom one is in contact and include, for example: geographical location, extent and range of social networks (Christakis & Fowler, 2009), and, frequency of opportunities for contact (Belot & Francesconi, 2013). Demand-side factors determine the people whose characteristics deem them the optimal partner; i.e. the individual differences that render some people more attractive than others (see: section 1.2.2.).

The process of identifying a suitable partner involves searching, meeting and selection (Belot & Francesconi, 2013); this can be extremely time-consuming. Before

the Internet, the scope for choosing a romantic partner was highly limited. People found partners from among those who lived near to them, with the distance between couples decreasing as urbanisation increased (Bossard & Abrams, 1943; Haandrikman, Harmsen, van Wissen, & Hutter, 2008; Marches & Turbeville, 1953). In addition to the boundaries presented by geography, partner choice was restricted by cultural and social norms (Collins et al., 2009). Finding a partner was often a by-product of taking part in another activity, such as going to work or college, or taking part in leisure activities; this increased the likelihood of homogamic mating, as a result of partner selection being situated within both spatially proximal and socially constructed communities (Bozon & Heran, 1989; Kalmijn & Flap, 2001).

Informal matchmaking has been embedded in many cultures for centuries (Knudson, 2016; Walker, 2017). Inextricably linked to familial expectations and social norms, rather than driven by notions of romantic destiny (Coontz, 2005), this mode of partner selection is frequently directed to the end goal of an arranged marriage (e.g. Ballard, 1978; Matras, 1973; Otani, 1991; Regan, Lakhanpal, & Anguiano, 2012; Rockman, 1994). Family-led matchmaking also takes place in contexts where dating is not culturally acceptable and, in this context, great importance can be placed on ensuring homophily in political, religious or sociodemographic backgrounds (Knudson, 2016). Such an approach is often founded on a contract between two family units, rather than just the two marriage partners, and has seen mixed success (e.g. Huang, Jin, & Xu, 2016; Xiaohe & Whyte, 1990). Informal matchmaking can also be conceptualised as the process of catalysing interactions through friendships and social events (Aaron, Mara, Ahuvia, & Adelman, 1992; M. R. Parks & Adelman, 1983); this type of mediation, often less strictly goal-oriented, continues to be significant in partner selection today. Meeting through

friends (including social gatherings) is the most popular way of finding a partner (Cacioppo, Cacioppo, Gonzaga, Ogburn, & VanderWeele, 2013; Toma, 2015).

Formal partner selection services are an equally well-established phenomenon, dating back to the early 17th century. Three centuries later, 1915 saw the first publication wholly dedicated to personal advertisements for romantic partners (Cocks, 2009). Classified adverts of this type – also called “lonely hearts” - were particularly popular in the 1970s and 80s (Aaron et al., 1992); they were the first example of people being required to summarily communicate their own attributes and those they desired in a partner. Gender was found to predict advert content: men were more likely to emphasise the importance of physical appearance and seek short-term sexual encounters, whereas women specified desired personality traits, financial stability and sought long-term partners (Bolig, Stein, & Mckenry, 1984; S. Davis, 1990). Women typically invested more time in responding to adverts than men, while men were more likely to respond to an advert, irrespective of whether they considered themselves to meet the advertiser’s requirements (Goode, 1996).

The popularity of professional matchmaking services grew in parallel with the surge in classified adverts (Aaron et al., 1992). For a fee, agencies offered to source and filter potential partners, thereby both expanding the pool of people available to any one person and increasing search efficiency (Knudson, 2016). They were also another indicator of the ongoing commodification of love and romance: the notion that romantic interpersonal connections can be packaged, branded and bought (Adelman & Ahuvia, 1991; Hochschild, 2012; Russell Hoschchild, 2003). Several decades on, defining romantic relationships in this way is an accepted norm (Ahuvia, 1993). Consequently, partner selection takes place in the context of “emotional capitalism”: a society in which emotion and economics have a mutually reinforcing

and shaping effect (Illouz, 2007, p. 5). Dating services in this context are effectively “market intermediaries” (Adelman & Ahuvia, 1991, p. 274), providing a platform on which negotiated exchange of assets (personal qualities and characteristics) can occur (Sprecher & Schwartz, 1994). Commercial matchmaking services adopt a variety of methods, including video dating; a reasonably short-lived phenomenon, particularly popular in the 1980s. While there was limited evidence of matching success (Toma, 2015), a small amount of research addressed this medium. Consistent with patterns found in personal adverts, men consistently selected younger women from their videos, and women selected older men. Both men and women were more likely to choose people whose videos showed them to be physically attractive, with women also choosing men who they rated as having a higher status (Green, Buchanan, & Heuer, 1984). Those who had already been married or who have children were likely to have fewer matches than those who have not (Vaillant & Harrant, 2008).

While there is still a market for face-to-face matchmaking services (Goldhill, 2015), they became largely over-shadowed by the rapid growth of online dating platforms in the early 1990s (see: section 1.3.1.2). Around this time, speed-dating services also started to gain some popularity. Speed dating involves participants taking part in a series of mini-dates, lasting several minutes only, with a succession of potential partners. At a speed-dating event, half the participants remain seated, while the other half move round the room, taking it in turns to sit with each seated person (Finkel, Eastwick, & Matthews, 2007). In this context, the people moving from one person to the next tended to be less choosy than those who remained seated, irrespective of gender (Finkel & Eastwick, 2009). This finding contradicts the evidence that men are more likely to initiate romantic interactions than women in a range of contexts (C. L. Clark, Shaver, & Abrahams, 1999; Scharlott & Christ, 1995).

Patterns of preference were consistent with previous research: physical attractiveness was important to both men and women (Asendorpf, Penke, & Back, 2011; Belot & Francesconi, 2013; Luo & Zhang, 2009), although men placed more value on this than women (Fisman, Iyengar, Kamenica, & Simonson, 2006). Women sought men who were open to experience (Asendorpf et al., 2011) and were more likely to want someone of the same race (Fisman et al., 2006). Education and income was more important to women than men (Asendorpf et al., 2011), with men wanting a woman whose intelligence did not exceed their own (Fisman et al., 2006). Finally, women were more likely to be immediately attracted to men than the other way round, paying more attention to non-verbal cues (Wilson, Cousins, & Fink, 2006).

1.3.1.2. Computer-mediated partner selection.

1.3.1.2.1. A brief history of digital dating. While computer-based matchmaking services were established in the 1950s, it was not until a decade later that students at Harvard University developed the first to be rolled out more widely (Mathew, 1965). “Operation Match” was the first significant iteration of a computer-aided dating service. People completed questionnaires by hand which, for a \$3 fee, would be converted to code and fed into a computer program. After several weeks of processing, the computer would issue the details of six people in the local area who had provided similar answers; these would then be sent to the applicant (Slater, 2013b). This service had considerable interest and a small number of couples matched through the service went on to marry (Leonhardt, 2006; Mathew, 1965). Although the slow processing time led to its closure in 1968, a proliferation of similar providers had already entered the market (Finkel et al., 2012; Slater, 2013b) and dating was a recognised industry (“New rules for the singles game,” 1967).

Formal study of the effectiveness of the first computer matching services was lacking. However, these early platforms, though simplistic when compared to current technologies, enabled more sophisticated academic experiments on attraction than was previously possible (Sprecher, Schwartz, Harvey, & Hatfield, 2007). The “Computer Dance” study paved the way in this regard (Walster et al., 1966). A sample of university students were asked to sign up to take part in a dance, where they would be matched with someone they had not met, based on areas of mutual interest. Their attractiveness, used as a proxy for social desirability, was objectively rated and they completed a battery of tests about their personality and preferences. In fact, they were randomly assigned a partner (with the sole exception that men were not matched with women taller than them). Students attended the event with their match, and were asked afterwards to rate how attracted they were to them. The partner’s physical attractiveness (rather than the subject’s own attractiveness) was the most significant predictor of attraction (Walster et al., 1966). A subsequent version of this experiment replicated this finding, noting that - after physical attractiveness - personality, character and intelligence were significant, albeit weaker, predictors of attraction (Tesser & Brodie, 1971).

The introduction of the Internet triggered the next iteration of computer dating in the mid-1990s (Sprecher, Schwartz, Harvey, & Hatfield, 2007). Since then, digital platforms have revolutionised romantic partner selection to an extent that would have been inconceivable even 30 years ago. In accordance with greater technological literacy more generally, the popularity and use of these services has grown at an unprecedented rate (Ellison, Heino, & Gibbs, 2006; Gibbs, Ellison, & Heino, 2006; Morgan, Richards, & Vanness, 2010; Tong, Hancock, & Slatcher, 2016b) Partially replacing more traditional matchmakers (Hobbs, Owen, & Gerber, 2016), online

dating is a \$1.8 billion industry (Grom, 2016) and the second-most popular way of finding a romantic partner (Toma, 2015) after meeting through friends (see: section 1.3.1.1). Once a stigmatised activity (Cali, Coleman, & Campbell, 2013; Gatter, Hodkinson, & Kollé, 2016; Valkenburg & Peter, 2007), computer mediated relationship initiation is now an accepted cultural norm (Schmitz, 2017; A. Smith & Duggan, 2013; Williams, 2016). Accordingly, attitudes to relationship initiation via the Internet have changed drastically since its early inception (Donn & Sherman, 2002).

Typically, online dating services (ODSs) enable users to access, communicate and match with potential partners (Finkel et al., 2012). In response to the surge in popularity, the number and range of ODSs has increased exponentially and the market is highly differentiated (Schmitz, 2014). Alongside generic websites, and in response to market saturation, service providers have developed increasingly niche offers that seek to cater for every conceivable cultural, religious, political and sexual preference, special interest group and leisure activity (Arvidsson, 2006; Lemel, 2016). Typically, ODSs enable users to create their own profile then give them access to the profiles of others. Sites work by: facilitating a profile search, such that users can identify and engage with others who interest them; using algorithms to match users; and/or through a mixed model which provides a platform for autonomous use, as well as information about compatibility (Finkel et al., 2012; Schmitz, 2014; Toma, 2015; Tong, Hancock, & Slatcher, 2016a). Users may sign up to multiple platforms simultaneously. The length of time taken to move from online to offline communication varies both between users and across specific interactions, as illustrated in Figure 1.1 (from Finkel et al., 2012).

Fig. 1.1. Prototypical, idealised online dating process

Image removed due to third party copyright

While online dating had been associated with increased geographical distance between daters (Merkle & Richardson, 2000), the mid-2000s saw a demand for proximity and immediacy, allied with a surge in global smartphone use (Statista, 2016). Responding to this, dating website providers either optimised their services for mobile platforms, or evolved them into apps (Toma, 2015). Apps swiftly evolved to allow location-based, real-time dating (LBRTD): GPS-based services that can identify, and facilitate interaction with, other users nearby (Birnholtz, Fitzpatrick, Handel, & Brubaker, 2014). The early days of LBRTD saw some concerns about security and privacy (Benisch, Kelley, Sadeh, & Cranor, 2011; Tsai, Kelley, Cranor, & Sadeh, 2010). Developers responded to these issues in a range of ways, for example, by giving only women the option to initiate contact (Sweeney, 2013), or enabling communications on a private platform with limited GPS radius (“Pozee app,” 2017). The LBRTD trend is set to continue, given that half the world now possess a mobile phone and ownership is on the increase (International Telecommunication Union, 2017; Statista, 2016).

Apps facilitate impulsivity and limit the cost associated with initiating contact (Jung, Umyarov, Bapna, & Ramaprasad, 2014). Making the first move is a situation of high interpersonal risk (Cameron, Stinson, & Wood, 2013) and rejection is far less public via this medium than in face-to-face interactions (King, Austin-Oden, & Lohr, 2009). In addition, apps enable the manipulation of the dating pool to suit the user’s needs, reducing costs associated with unproductive searching. One app, for instance, tracks the male-female ratio in a given area to notify users when the gender balance is in their favour (Evans, 2011).

Historically, ODS providers made extensive references to the number and diversity of profiles they had on offer. They communicated a simple, easy process and

guaranteed success (Churchill & Goodman, 2008). However, it quickly became apparent that more choice did not equate to effective or efficient partner selection; rather, having too many options can lead to poorer decision-making (Yang & Chiou, 2009). Cognitive processing is slowed in the face of an extensive number of potential partners, as it requires an ability to quickly and accurately filter out a much larger number of unsuitable options (Best & Delmege, 2012; Botti & Hsee, 2010; Finkel et al., 2012). In addition, a greater amount of choice reduces motivation to choose one person to the exclusion of all potential alternatives (Lenton & Francesconi, 2010; A. Smith & Duggan, 2013). In parallel, the market rapidly became saturated and, accordingly, growth in the industry started to decline as early as 2005 (Pasha, 2005). Recent years have seen far greater focus on exclusivity (Edwards, 2016; Haynes, 2017).

1.3.1.2.2. Differences in digital dating use. Digital dating research has struggled to keep pace with usage: studies focus on, for example, characterising those likely to take part (e.g. Sautter, Tippett, & Morgan, 2010) and comparing users with non-users (e.g. Merkle & Richardson, 2000). This approach is arguably already out-of-date, given the extent to which most interpersonal relationships involve some degree of computer mediated communication. Engagement in online dating rose as a consequence of increased global Internet penetration, with dating site use related to more general Internet use (Kang & Hoffman, 2011). As a result, the personality characteristics of those using ODSs and apps are now not significantly different from those of the general population (Aretz, Demuth, Schmidt, & Vierlein, 2010; Azghandi, Memar, Taghavi, & Abolhassani, 2007; Gatter et al., 2016; Picheny Goldberg, 2009; Valkenburg & Peter, 2007). Indeed, ODSs are so ubiquitous that

there is evidence people feel obliged to use them even if they would prefer not to (Mascaro, Magee, & Goggins, 2012).

Early use of ODSs was associated with social compensation: anxious and introverted people were better able to function in an authentic way online when compared to offline (e.g. Amichai-Hamburger, Wainapel, & Fox, 2002). However, people who lack social confidence offline are equally unlikely to thrive in virtual environments and can find virtual partner selection intimidating (Poley & Luo, 2012). Consistent with the rich-get-richer hypothesis, the opposite is true for those low in dating anxiety who stand to gain more from use of digital tools for partner selection. However, more socially competent people also spend less time dating virtually, as online platforms are used as just one of a number of possible routes to partner selection (Kraut et al., 2002; Poley & Luo, 2012; Valkenburg & Peter, 2007). The importance placed on romantic relationships is also a significant variable: where this is high, sociable people are more likely to take part in online dating if they have high self-esteem than if they have low self-esteem. Conversely, among sociable people who consider a romantic relationship unimportant, those with low self-esteem are more likely to take part in online dating than those with high self-esteem (Kim, Kwon, & Lee, 2009).

People use digital dating platforms to initiate all kinds of relationships: from friendship to casual sex to casual dating, to finding a long-term or marriage partner (Bapna, Ramaprasad, Shmueli, & Umyarov, 2016; Couch & Liamputtong, 2008; Gatter et al., 2016; Gudelunas, 2012; Miller, 2015; Sumter, Vandebosch, & Ligtenberg, 2017). Many simply use them for entertainment (Carpenter & McEwan, 2016). There is no difference in motivation to use ODSs compared to apps, although men are more likely than women to use both for casual sex (Clemens, Atkin, &

Krishnan, 2015; Gatter et al., 2016) and gay users are more likely to utilise apps for a wider range of purposes than straight people (Clemens et al., 2015). Some groups of people are more likely to use ODSs or apps due to the limitations in their offline dating pool. People in minority groups, or those seeking only others of a specific religious or political affiliation, are likely to have far fewer people to choose from in the real world. People with potentially stigmatised aspects of identity can also be more comfortable revealing this information online than offline (for review, see: Birnholtz et al., 2014). ODSs and dating apps have been taken up particularly by lesbian, gay, bisexual, transgender and questioning (LGBTQ) individuals, with Grindr – a LBRTD app for gay men – paving the way for the wealth of similar apps that followed (Miller, 2015). The concept of a *thin market* is relevant here: First introduced in respect of futures trading (R. W. Gray, 1960), and popularised in agricultural economics literature (Hayenga, Gardener, Paul, & Houck, 1978; Nelson & Turner, 1995), it describes a context in which only a small number of transactions are likely to take place in a given time period (Hayenga et al., 1978). Rosenfeld and Thomas (2012) applied this to the dating context, explaining that gay people and middle-aged heterosexuals, in particular, find themselves in this type of marketplace. Participation is costlier to people in these groups – since there are simply fewer suitable people available - and this effectively acts as a barrier to entry. As a result, they have more to gain than other people from virtual dating environments (Rosenfeld & Thomas, 2012).

A recent study of Tinder identified Big Five traits correlated to both use and non-use. Single people using the app tended to be more extraverted and more open to experience than single non-users. Single people who did not use the app were more conscientious than those who did (Timmermans & De Caluwé, 2017). Rationale for

use also differs in accordance with the Big Five personality factors (Clemens et al., 2015). Neurotic people use ODSs to find a sense of identity, as a convenient way to meet companions and as a distraction. Those open to experience use them to be sociable, and disagreeable people use them because of peer pressure. Conscientious people use ODSs to find a sense of identity and because they are looking for a romantic relationship (Clemens et al., 2015). Chan (2017) explored characteristics and beliefs that specifically predict intent to use dating apps. Attitudes to app use and sensation-seeking strongly predicted intent to use dating apps both for casual sex and more serious romantic connections. In addition, romantic self-efficacy predicted the intent to use an app to find a romantic partner and perceived norms predicted the intent to use an app to find a casual sex partner (Chan, 2017). There can be a perception that digital platforms are more likely to lead to success when compared to offline methods (Fullwood & Attrill-Smith, 2017), which helps to explain in more detail the relationship between attitudes and intent to use.

1.3.1.2.3. Differences in digital dating behaviour. Much early work on online dating outcomes was concerned with negative aspects of its use including deception, identity fraud and scamming (e.g. T. L. Anderson, 2005; Buchanan & Whitty, 2014; Rege, 2009; Toma, 2008). Early concerns about the (negative) personality profile of Internet daters arose when this was still a marginal activity. While much fear of this kind has dissipated since the cultural normalisation of ODS use, some still persists: women are more wary of men they meet online than offline (Cali et al., 2013). Rather than all users being equally likely to deceive or be deceived, however, there is some evidence of correlations between negative outcomes and individual differences. Romantic idealists are more likely to be victims of online dating scams, for example (Buchanan & Whitty, 2014). Both men and women who have more positive attitudes

to infidelity are more likely to be unfaithful online and offline (Martins et al., 2016) and those with dark personality traits – specifically psychopathy and sadism – are more likely to “troll” other users (March, Grieve, Marrington, & Jonason, 2017).

While the online-offline population personality profile is comparable, the medium itself drives differences in behaviour. Digital dating relies on an assessment of a person’s characteristics (and of the likely compatibility of those with one’s own) before a face-to-face meeting; this is essentially the opposite of what occurs in offline dating (Finkel et al., 2012). Early Internet use saw researchers speculate that fewer visual cues would render physical attractiveness less important than in real-world interactions (D. Levine, 2000; McKenna & Bargh, 2000). In reality, observable attributes – such as appearance and age – are important in online dating contexts (Kurzban & Weeden, 2005); this is also the case in real-world scenarios where physical attractiveness is a significant predictor of initial attraction (e.g. Sprecher, 1989). Initial physical attraction also acts as a gateway to subsequent attraction on other dimensions, as well as to deeper attachment (Poulsen, Holman, Busby, & Carroll, 2013). That said, profile text – and what it communicates - also plays a significant role over and above physical attraction (Fiore, Taylor, Mendelsohn, & Hearst, 2008).

The rapid evolution of online dating to app-based dating was associated with a shift to profile minimalism, requiring faster appraisal of the potential attractiveness and suitability of partners at the initial stage of selection. For Tinder, the market-leading dating app (Priceconomics, 2016), this *swipe logic* (David & Cambre, 2016) was an element of its unique selling point. Users complete a very brief profile and can then swipe through hundreds of other users’ profiles, presented to them in order of geographical closeness. They simply swipe left on anyone with whom they want to

interact and, if this is mutual, they can chat immediately. The perception of Tinder as an app suitable only for “hook-ups” (LeFebvre, 2017b) may have resulted from a sense of apparent superficiality associated with making decisions based on very limited detail. However, it is possible to accurately infer personality characteristics from very small amounts of information (e.g. Ambady, LaPlante, & Johnson, 2001; Holtgraves, 2011; Stecher & Counts, 2008b); therefore, this platform, and others like it, are suitable for use as a vehicle for long-term partner selection (Chan, 2017; Freitas, 2017). Recent research indicates that the pursuit of meaningful relationships is, in fact, a stronger driver to use Tinder than the desire for casual sex (Sumter et al., 2017).

As online communications do not allow people to assess non-verbal or experiential cues to attraction and compatibility, there is a risk that perceived compatibility online can differ from actual compatibility upon meeting face-to-face (Finkel et al., 2012; J. H. Frost, Chance, Norton, & Ariely, 2008). Early studies of ODSs raised concerns that without non-verbal cues, people would be less able to understand identity and emotion, thereby hindering the potential for meaningful interpersonal connection (Kiesler, Siegel, & McGuire, 1984; Rice & Love, 1987). More recent evidence indicates that perceived intimacy can actually be greater online than offline, either a result of increased self-disclosure or of intimacy developing before passion (Jiang, Bazarova, & Hancock, 2011; Lambert, Howcroft, & Hoelson, 2015). This finding is consistent with the *hyperpersonal model*, which asserts that communication dynamics are transformed by the online environment in a way that changes the nature of the relationship between the people communicating (Ellison, Hancock, & Toma, 2012; Walther, 1996).

Communication in an online dating context is strategically aimed at presenting a favourable picture and playing down traits that may be seen as negative (Ellison et al., 2006; Koban & Ohler, 2016; Rui & Stefanone, 2013; Walther, 1996; Whitty, 2008). People looking for relationships aim to be more truthful in their profiles than those who seek something less serious (Ranzini, Lutz, & Gouderjaan, 2016); for instance, less attractive people are more likely to lie or exaggerate physical attributes (but not non-physical attributes) in text descriptions on online dating profiles (Toma & Hancock, 2010). Gender also predicts deception in digital profiles. Men are more likely to lie about their marital status, and are more inclined to report higher-than-actual figures regarding their education level, height and income. Women are more likely to lie about weight and age, reporting lower-than-actual figures (Hitsch, Hortaçsu, & Ariely, 2005; Toma, 2008). This strategic presentation extends to profile pictures with women's profiles more likely to be inaccurate representations of their physical appearance than men's (Hancock & Toma, 2009). There is also evidence of self-deception in this regard, however, as daters rate the accuracy of their profile photos more highly than if rated objectively (Hancock & Toma, 2009), indicating that people may not intend to deceive, but rather to present themselves in the best light. It is widely recognised that there are now huge pressures on users of networking platforms to appear attractive and flawless at all cost (Freitas, 2017). Some online daters report being less successful the more honest they are (Gibbs et al., 2006). It seems also that there are parameters of acceptable deception derived from broad understanding among users that both they and other users seek to present themselves in the best possible light (Ellison & Hancock, 2013; Ellison et al., 2012). This is consistent with attitudes towards deception on the Internet more broadly (Drouin,

Miller, Wehle, & Hernandez, 2016). Accordingly, identity can be seen as a “somewhat malleable” concept (Ramirez et al., 2015, p. 101).

Profiles are not simply strategic, however. An in-depth qualitative analysis of profiles (Manning, 2014) emphasised the consideration and importance users give to communicating their own ethos – i.e., their values, beliefs and attitudes – and understanding the ethos of others. Manning’s study included both heterosexual and homosexual daters, finding evidence of both explicit and latent values by examining what was said in profiles and then how profile content was conceptualised and articulated through follow-up qualitative interviews. Manning found several dominant themes and gender differences: while both men and women consistently talk about being “drama-free” (p. 315), and seeking a peaceful, stress-free partnership, for example, women tend to express this very directly, whereas men use more subtle language. Related to this, both men and women are likely to reference explicitly the importance of finding a partner with a compatible ethos (e.g. having someone to “mesh well with”, p. 315). A range of personal beliefs featured in the users’ profiles, typically as first-person statements by the user about who they are and how they operate. Manning found that these sought to establish the person’s ethos and that they broadly related to the person’s self-rated gregariousness, seriousness and/or intelligence. Within this, career-related beliefs dominated men’s profile content but not women’s. However, when asked to articulate beliefs as part of providing a narrative on profile text, both men and women of all sexualities referenced career-related beliefs as important. This illustrates the importance of understanding the beliefs that underpin surface level indicators of ethos. Similarly, far more attitudes were expressed verbally as part of follow-up interviews than were found in the written text alone. Values, preferences and beliefs expressed in dating profiles differ from

those expressed in verbal descriptions; largely this was because users were concerned about others judging their profiles negatively, with explanations of this illustrating that these concerns were also related to ethos. For example, women seeking men did not want to overtly reference physical attractiveness, in case this is misconstrued as being more important than other characteristics. This is also consistent with research that indicates people can be hesitant to express a personal attribute in an online profile that they think may lead others to judge them inaccurately or negatively; for example, political identity (Collier, 2016). In brief, the importance of ethos to compatibility cannot be underestimated.

Users of ODS and apps are required to engage with other users to initiate the partner selection process. People tend to contact those who are like them in terms of ethnicity, religion, marital status and health behaviours (Fiore, Taylor, Zhong, Mendelsohn, & Cheshire, 2010). Men are less demanding than women are in terms of specifying the qualities they are looking for in a partner (Fiore et al., 2010). Zhang and Yasseri (2016) found that men contact women first nearly five times more often than the other way around. Consistent with evolutionary theory, a recent systematic review of online dating behaviour found that men are most likely to prioritise physical attractiveness, while women focus on socio-economic status (Abramova, Baumann, Krasnova, & Buxmann, 2016). Men are also less selective when initiating contact with, and replying to, others (Fiore et al., 2010; Hitsch et al., 2005). Discrepancies between self-other attractiveness do not determine (or limit) initial contact, although those who are more physically attractive are also more choosy, initiating contact less frequently than less attractive people (Hitsch et al., 2005). This effect also extends to socio-economic status: both men and women are more likely to initiate contact with

socially desirable individuals, irrespective of their own status in this regard (Kreager, Cavanagh, Yen, & Yu, 2014).

People communicate online for varying lengths of time before moving offline. People living further apart from each other tend to communicate for longer before moving offline. The early years of digital dating saw increased geographical distance between couples, which is important because distance drives dating behaviour. For example, people in long-distance dating relationships are more likely than those who live near each other to avoid conflict and avoid discussion about relationship beliefs, values and taboos. They are also more likely to present only partial information about themselves in order that they are seen in a positive light. Long distance partners experience the same or higher relationship quality compared to geographically close couples (Kelmer, Rhoades, Stanley, & Markman, 2013; Stafford, 2010). Those dating over long distances, however, communicate in a way that focuses on intimacy and connection more than those who live near each other (Stafford, 2010; Stafford & Merolla, 2007). The catalysed intimacy elicited by ODSs can lead to misconceptions about the relationship. They can consider the partner to be a more suitable match than they actually are, for example (Stafford, 2010), or can underestimate the likelihood of relationship dissolution (Kelmer et al., 2013).

1.3.1.2.4. Differences in digital dating outcomes. People using ODSs and apps can - and do - build close relationships quickly. Quiroz notes that dating in this way creates a *thin trust* situation (Putnam, 2000); i.e., trust is extended to a group of people wider than just those whom one may know (Quiroz, 2013). This differs from *thick trust*, which is bestowed to known people in one's network and which could follow from thin trust. The nature of the communication via these media can, however, lead to an unrealistic (overly positive) assessment of compatibility (Walther,

1996); this can be more disappointing or uncomfortable in a face-to-face meeting than if there had be no online interaction. Spending only a brief time communicating online before moving to an offline meeting, therefore, limits risk and increases efficiency (Finkel et al., 2007; Khan & Chaudhry, 2015).

Moving offline after a short period of online communication also leads to better outcomes, specifically better ratings of a partner's interpersonal qualities and of future relationship potential (Ramirez et al., 2015). Ramirez et al. (2015) found an inverted curvilinear relationship between time spent talking online before meeting face-to-face and the outcomes experienced upon meeting. Closeness increases from the point of initial communication, but only up to approximately three weeks. When the online-offline transfer takes place after this time, outcomes are worse. The authors suggest this is likely to be a result of a bigger discrepancy between a person's actual qualities and the anticipated qualities. The more time that passes without a face-to-face meeting, the more likely it is that the gaps in information about the other person will be plugged in an overly optimistic way and, therefore, the more likely it is that the other person will fall short of what is expected (Ramirez et al., 2015). The same study also found that the person initiating contact on the ODS is more likely, upon meeting offline, to feel close to the other person and to be positive about the face-to-face communication. Finally, having more photos on a profile results in less information-seeking during subsequent offline communications, while using more communication channels prior to the face-to-face meeting (e.g., email, text messaging etc.) results in more information-seeking, an increased sense of closeness and greater perceived value during the face-to-face encounter (Ramirez et al., 2015).

Approximately one-third of people using ODSs do not meet anyone offline (A. Smith & Anderson, 2015): it may be that some of these people continue in

exclusively online relationships. Where this is the case, relationship satisfaction and perceived commitment is greater when communication is more frequent and over a longer period of time. Exclusively online couples who communicate a moderate amount, as opposed to a lot or a little, are more likely to perceive each other as similar than couples who spend more or less time communicating (T. L. Anderson & Emmers-Sommer, 2006).

Consistent with the evidence of too much choice being unhelpful (see: section 1.3.1.2.1.), during the early stages of relationship initiation, those who have chosen to date someone from a small pool of possible partners are more likely to be satisfied with their choice, when compared to those who have drawn from a larger pool (D'Angelo & Toma, 2016). Both perceived and expressed similarity in attitudes, prior to meeting, predicted positive first date outcomes (Sharabi & Caughlin, 2017) .

Looking longer-term, the proportion of married couples who met online rose from 10 per cent to 35 per cent between 2010 and 2013 (Ansari, 2015). A seminal study by Cacciopo et al. (2012) examined marriage data from 2005-2012 and found that couples who met online were less likely to separate or get divorce than couples who met offline. Extending this work, Paul (2014) identified that people using ODSs are significantly more likely to date than to marry. Looking across all relationship types (both dating and marriage partnerships), she notes that those who meet online are more likely to break up than those who meet offline, but that length and quality of relationship quality - in addition to meeting place - are significant predictors of relationship dissolution. Subsequent research found that millennials are more likely to favour traditional relationship ideals – marriage and children - over more casual encounters (Balbi, 2016). In addition, given the increased access to potential partners, there is now greater focus on finding the best possible partner, rather than “settling”

(Oyer, 2014). Dating more partners before marriage – which now happens later in life – can be seen as mitigating the risk of marrying the wrong person. Taking this into account, along with the fact that relationship dissolution is not always a negative outcome for those involved, it is unhelpful to reduce consideration of success to marriage as a single indicator.

Statistics on relationship failure could also be considered highly incomplete. ODSs and apps enable people to initiate relationships freely and easily; subsequently, more relationships are started when communicating online than in the pre-internet era (Wellman, Boase, & Chen, 2002). The primary aim of ODSs and apps is to move from online communication to an offline meeting; this, in itself, can be considered a success (Zhang & Yasseri, 2016). Computer-mediated communication has also made relationship dissolution easier, since people know they will have access to a wealth of potential new partners afterwards and because technology provides new ways to communicate that a relationship is not wanted or is over (Tong & Walther, 2010) (LeFebvre, 2017a). The phenomenon of *ghosting* - ending a relationship by shutting down routes to communication across multiple platforms - is now commonplace (LeFebvre, 2017a). Taking all this into account, relationships, especially those judged as sub-optimal, are more likely to end sooner than they were before (Slater, 2013a). Analysis of outcome data is likely to give a highly limited and incomplete picture, if considering only the relationships defined categorically as established or long-term and if defining success in these terms; such relationships are only a proportion of those initiated online. Users of ODSs and apps have very different motivations for taking part in this activity and for engaging in a wide variety of relationships as a result, so it is important to understand success in terms of user-defined criteria (Mascaro et al., 2012).

In summary, while ODSs and apps provide unprecedented access to potential partners, too much choice in this regard can be a hindrance. People use these platforms for countless reasons and to seek a wide range of relationship types. Men and women behave significantly differently when using these technologies, in ways consistent with evolutionary theories of partner selection. When seeking a romantic partner, however, evolutionary theory explains only one element of what is considered ideal. In addition to physical attractiveness: communication style; beliefs; attitudes; and values also play an important role. Finally, in the context of extended periods of time spent dating and increased focus on the right person, rather than settling for a sub-optimal partner, the notion of success can no longer be understood as simply the formation of a long-term relationship or marriage.

1.3.2. Measures of romantic preference and relationship outcomes.

Selection is driven by one's own implicit beliefs (see: section 1.2.2.2.1), as well as an assessment of the perceived characteristics of a potential partner. Both observable and non-observable characteristics inform perceptions of a potential or actual mate (Simpson, Fletcher, & Campbell, 2001). Accurate assessment of compatibility, therefore, relies on an understanding of both explicit and latent traits in the self and in another. Ideally, such an assessment should inform both expressed preference in terms of an ideal partner and actual partner selection.

Choosing a partner is “a psychological event” (Ináncsi et al., 2016, p. 139), relating closely to our conceptualisation of romantic relationships. There is, however, no single unifying theory of love or attraction (Berscheid & Meyers, 1996; Finkel et al., 2017). Accordingly, a wide range of tools have been developed to improve our understanding and measurement of romantic attraction, attachment and relationship outcomes. Tools typically measure attitudes, feelings and behaviours in relation to

different aspects of forming and maintaining relationships. For instance, there are validated measures that assess: beliefs about relationships, love and romance (Fletcher & Kininmonth, 1992; Grote & Frieze, 1994; Hatfield & Sprecher, 1986; C. Hendrick, Hendrick, & Dicke, 1998; Sprecher & Metts, 1989); attitudes to sex and sexual behaviour (e.g. T. D. Fisher & Hall, 1998; Morokoff et al., 1997; Purnine, Carey, & Jorgensen, 1998; Tromovitch, 2000); behaviour and feelings when in a romantic relationship (e.g. E. W. Mathes, Phillips, Skowran, & Dick, 1982; W. E. Mathes & Severa, 1981; Stafford, Dainton, & Haas, 2000; Wei, Russell, Mallinckrodt, & Vogel, 2007); and relationship outcomes, such as general satisfaction (e.g. S. S. Hendrick, 1988; S. S. Hendrick, Dicke, & Hendrick, 1998) experience of conflict (Zacchilli, Hendrick, & Hendrick, 2009), commitment level (Rusbult et al., 1998) and closeness (Berscheid, Snyder, & Omoto, 1989, 2004).

The psychology of early stage relationship formation (defined as between three and four months in length) is a relatively under-researched area (Fletcher et al., 2000), with many existing measures focusing on established relationships (or asking people to respond based on their previous experiences of being in a relationship). Their scope for use in assessing romantic preference in the abstract is, therefore, limited. The most notable measure used in partner selection and relationship initiation is that associated with Fletcher et al.'s ISM (see: section 1.2.2.2.1). The three-factor model (Fletcher et al., 1999) measures preferences for a partner who: is warm and trustworthy (with scale items relating to loyalty, affection, kindness etc.); is attractive and vital (with scale items relating to good looks, health and vigour etc.); and has status and resources (with scale items relating to employment, finances, success etc.) This tool assumes trade-offs are made in partner choice based on differential preferences in each of these three areas and, in doing so, enables a deeper

understanding of assortative preference in partner selection (see: section 1.2.2.1). The scale has respectable psychometric properties (Fletcher et al., 1999) and illustrates how ideal partner standards are founded on preferences that can be measured (Campbell & Fletcher, 2015).

The ISM offers a functional perspective on partner selection, asserting that cognitions related to the self, a partner and a relationship overlap and inform ideal standards (Fletcher et al., 1999). Responding to the challenge that ideals measured in the abstract do not predict actual partner choice (Eastwick & Finkel, 2008), Fletcher et al. highlight how, for women engaged in partner selection activity, low initial ratings of men's attractiveness act as a barrier to ongoing communication; this was a function of women placing higher importance on the *Attractiveness-Vitality* dimension than men (Campbell & Fletcher, 2015). The finding was reported to validate the assumptions underpinning the ISM (Campbell & Fletcher, 2015; Fletcher, Kerr, Li, & Valentine, 2014). However, the principles informing this model stem from evolutionary theory (Campbell & Fletcher, 2015). Given that we know interpersonal attraction is predicted by both social psychology and personality theory (e.g. Figueredo et al., 2006), it may be that the ISM does not consider all significant drivers of preference; it could also be that the functional aspect of ideal standards is wider than evolutionary function alone. From contemporary studies of online dating platforms, it is known that people engage in partner selection activities for different reasons, looking for relationships of different types and defining success in different ways (see: section 1.3.1.2.3); it follows that any tool to measure ideals in the current partner selection context could usefully encompass, but also look beyond, evolutionary theory. It is also important that functional perspectives take account of situational contexts (Lench, Darbor, & Berg, 2013). Such a tool ought, therefore, be

suitable for administration via digital media, given the extent of partner selection which now takes place online, as well as the current challenges of translating human attraction into computer code (Rudder, 2013). Many ODSs claim to offer unique ways of assessing ideal partner preference and compatibility; however, much of this is proprietary (Finkel et al., 2012).

In summary, the initiation and formation of romantic partnerships is an important, but neglected, phase of relationship study. In an effort to address this, significant and groundbreaking work has been done conducted by Fletcher et al., (1999) in respect of understanding and measuring romantic partner ideals. Given that the partner selection landscape has changed significantly since this model was developed, and that it is heavily informed by evolutionary theory (only one driver of preference), now is an opportune time to consider the development of a new tool to help understand compatibility.

1.4. What predicts relationship outcomes?

1.4.1. Individual differences in personality. A wide range of individual differences play a role in determining the quality of, and outcomes associated with, interpersonal relationships. Effective emotion regulation and emotional intelligence, for example, are associated with better interpersonal functioning and relationship satisfaction (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007; Gross & John, 2003; Malouff, Schutte, & Thorsteinsson, 2014). Intrinsic ideals, such as kindness and closeness, are more important predictors of relationship satisfaction than extrinsic ideals, such as physical attractiveness and wealth (Rodriguez, Hadden, & Knee, 2015). Self-compassion predicts better relationship functioning (Neff & Beretvas, 2013), as does expression of gratitude (Algoe, Gable, & Maisel, 2010) and self-esteem (Erol & Orth, 2013). Striving to achieve positive relationship experiences

(*approach goals*), as opposed to focusing on avoiding negative ones (*avoidance goals*), also predicts satisfaction (Impett et al., 2010).

Personality plays a particularly significant role in this regard, predicting outcomes at all stages of relationship development. In terms of initial mating behaviour, an international study with data from 46 countries found that high Extraversion, low Agreeableness and low Conscientiousness correlated positively with short-term mating (Schmitt, 2008). In established couples, both partners' personalities play an important role in predicting relationship quality (Robins, Caspi, & Moffitt, 2000). The self-reported personality and partner-perceived traits of Neuroticism, Agreeableness and Conscientiousness are significant predictors of positive outcomes (Gattis, Berns, Simpson, & Christensen, 2004; Malouff et al., 2010; Weidmann, Ledermann, & Grob, 2016). Neuroticism is the most significant Big Five predictor overall, such that low Neuroticism indicates happier, more stable relationships and high Neuroticism has the opposite effect (Dyrenforth, Kashy, Donnellan, & Lucas, 2010; Eysenck, 1980; Finn, Mitte, & Neyer, 2013; Gattis et al., 2004; Karney & Bradbury, 1995; Malouff et al., 2010; Mund et al., 2016). Relationship satisfaction has been attributed to congruence between partners' overall personality profiles, rather than that of individual traits (Gonzaga et al., 2007); however, similarity on individual traits has been associated consistently with benefits including relationship longevity (Bentler & Newcomb, 1978; Rammstedt, Spinath, Richter, & Schupp, 2013), stability (Caspi & Herbener, 1990) and satisfaction (Gattis et al., 2004; Robins et al., 2000; Russell & Wells, 1991). Perceived - rather than actual - personality similarity also plays a significant role in predicting relationship satisfaction (Decuyper, De Bolle, & De Fruyt, 2012; Zentner, 2005).

Personality also predicts negative relationship outcomes. Anxious attachment, for example, leads to greater perceived conflict and greater escalation of conflict (Campbell et al., 2005). Among the Big Five, low Conscientiousness is the most significant predictor of infidelity, along with high Psychoticism and high Narcissism from the Dark Triad (D. M. Buss & Shackelford, 1997; Jonason et al., 2009). Extraverts are also more likely to try to “poach” other people’s partners, have their own partners poached and to be in non-exclusive relationships (Schmitt, 2008). A European study found that divorce was previously associated with high Openness, but is now more typically associated with low Conscientiousness (Boertien & Mortelmans, 2017); this is consistent with findings that this trait, along with Neuroticism and Agreeableness, is particularly significant in predicting marriage dissolution (B. W. Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). This finding has been attributed to the significant influence these traits have upon global relationship quality which, in turn, determines the probability that a relationship will be maintained or ended (Solomon & Jackson, 2014)

The relationship between personality and relationship outcomes is mediated by a range of other individual difference variables, as only approximately 50 per cent of the relationship between personality and relationship satisfaction can be explained by genetics (South et al., 2016). In long-term relationships, for example, negative outcomes (both individual and dyadic) can be caused by an inability to manage stress effectively and a maladaptive attachment style (Jimenez-Arista, Walsh, & Randall, 2016; Nofle & Shaver, 2006). They can be mitigated by positive dyadic coping, including understanding commonality, demonstrating empathy and emotional intelligence, as well as committing to relationship maintenance (Jimenez-Arista et al., 2016). Consistent with evidence on the importance of recognising context when

taking a functional perspective on partner selection (Lench et al., 2013), the quality of social networks in which a couple are situated also determines positive relationship outcomes after controlling for personality - as does attachment style (Neyer & Voigt, 2004).

1.4.2. Implicit beliefs. Just as implicit beliefs predict partner selection behaviour (see: section 1.2.2.2.1), implicit theories (G. A. Kelly, 1955) about relationships endure over time and are important predictors of satisfaction (Franiuk, Cohen, & Pomerantz, 2002); these can relate to both physical and psychological characteristics, as well as aspects of the relationship. Implicit theories predict whether a trait or circumstance is seen as fixed and pre-determined, or malleable (Dweck, Chiu, & Hong, 1995). People who understand traits as fixed are predisposed to interpreting events (particularly setbacks) through the lens of that trait (e.g., thinking a relationship failed because they are neurotic), rather than identifying mediating factors that can explain negative experiences (e.g., thinking a relationship failed because there were a range of contextual stressors). A study concerning implicit preferences of romantic beliefs, for example, found that defining relationship success in terms of finding the right partner is negatively correlated with a definition of success in which relationships that require effort to get right (Franiuk et al., 2002). This finding was consistent with earlier research, which found an implicit belief that relationships are pre-destined is more likely to lead to avoidant coping in the relationship, than when an implicit belief is held that relationships need to be jointly built (Knee, 1996). Building on this, irrational relationship beliefs (e.g., that disagreements are always negative and people cannot change) predicted reduced relationship satisfaction and is associated with an insecure attachment style (Stackert & Bursik, 2003) .

1.5. Summary and Aims of PhD

This thesis seeks to address the gaps in the literature and make an original contribution to research by: (1) developing a new scale for measuring ideal partner preference, taking a functional perspective and encompassing - but not limited to - evolutionary theory; (2) exploring the latent factors and trade-offs that underpin ideal partner preference; (3) testing the relationship of ideal partner preference with self- and objectively-rated eligibility, personality traits and attitudes to love; and (4) testing ideal partner preference, as measured by the new tool, in established relationships. In this section, we will briefly summarise the rationale for each of these aims, linking with the wider theory presented in this chapter.

1.5.1 Developing a new ideal partner preference scale. This literature review has identified that there are differences in conceptualised partner preference which predict romantic partner choice. The majority of preference studies have been driven by, or interpreted within, the context of an evolutionary framework, yet this does not fully explain preference (Eastwick, Luchies et al, 2013). As has been presented in this chapter, preference is broader and more complex than sociobiology alone, encompassing an extensive range of traits, as well as social context, cultural norms, values and behaviours. Expressed preference also varies depending upon the stage of the relationship at which a person is asked to define this, and what they are looking for from their relationship. Being asked to define preference (even only implicitly) is now a cultural norm, as increasing amounts of partner selection and relationship initiation take place virtually. Given that people have only partial insight into their own preferences and the latent values that underpin them, there is value in defining and measuring preference within a new framework that encapsulates (but is not limited to) evolutionary theory. There is a well-articulated need for a more

integrative approach to conceptualising partner preference (see: section 1.2.1). A new framework could therefore usefully take such an approach, synthesising in particular personality and socio-biological theories, given the strong evidence that personality is an important driver of both partner choice and relationship outcomes (see: section 1.2.2.1). In doing so, it would provide a useful extension of the most prominent and well-developed model in the literature – the Ideal Standards Model (Fletcher et al. 1999) and could usefully be applicable across a range of partner selection contexts. Developing such a measure, including establishing the factor structure and piloting it in different samples, will be the focus of studies 1 and 2 (see: Chapter 2).

1.5.2 Exploring the latent factors and trade-offs that underpin ideal partner preference. This literature review has demonstrated the wealth of evidence to support positive assortment as a model of partner selection. People seek others like themselves on a range of dimensions, however, as has been highlighted, there are some anomalies and some gaps in the literature (see: section 1.2.2.1). We also know that people make trade-offs in partner selection; not everyone considers the same characteristics to be ideal, or prioritises what they want from a partner in the same way. As summarised in 1.5.1, the majority of literature on trade-offs made in partner preferences uses the ISM (Fletcher et al. 1999) but we know also that a very wide range of dynamic and contextual factors, beyond those related to sociobiology, explain and predict dyadic interaction (see also: sections 1.2.1 and 1.2.2). Personality is a particularly important driver of both partner choice and relationship outcomes (see: section 1.2.2.1). In addition, attachment style, expectations, values, cultural norms, leisure interests and demography can play a critical role in relationship initiation, and we know that individuals differ in these areas (see: sections 1.2.2 and 1.3.1). Accordingly, contemporary dating services typically ask people to self-rate

their preferences in respect of many of these domains. Many tools to gather these data are currently limited, for example: by being very lengthy; taking a predominantly Likert-scale format; or, comprising commercially confidential detail. By identifying the latent factors underpinning partner choice, and testing the relationship between them, this thesis will respond to the noted limitations, and to the need for deeper understanding of the detailed trade-offs made in partner selection. Factor analysis will be the focus of studies 2 and 3 of this thesis (see: Chapters 2 and 3), while examination of trade-offs made will form part of studies 2 to 7 (see: Chapters 2 to 6).

1.5.3. Testing the relationship of ideal partner preference with self- and objectively-rated eligibility, personality traits and attitudes to love. As discussed in this literature review, we know that people want a partner who is as eligible as they are, or moreso. We also know that there are some physical and psychological characteristics with universal appeal and that these characteristics are not just those which are cues to reproductive fitness (see: section 1.2.2.2). Personality factors – in particular, emotional intelligence, Big Five and Dark Triad traits – play a significant role in predicting both positive and negative outcomes from close personal relationships (see: sections 1.2.2.1 and 1.4.1). In brief, people make assessments of their own appeal as a romantic partner, and that of others. They can do this by appraising individual characteristics and/or overall mate value; these ratings then drive both mating behaviour and dyadic outcomes.

This chapter also highlighted the cultural normativity of dyadic relationship permanence and the ubiquity of references to love and romance (see: section 1.1). In developed societies, there is significant social pressure to find a suitable romantic partner yet a paucity of evidence about the requisite qualities that would render a potential partner suitable for someone else. There is evidence of individual

differences in romantic beliefs and expectations which can impact both positively and negatively on romantic relationships (see: section 1.4.2). Finally, the impact of different partner selection platforms was discussed. Of particular note is the finding that mediated communication – such as that required when using online dating services – can elicit discrepancies between preference expressed in different ways (e.g. qualitatively versus quantitatively).

This thesis focuses on developing, piloting and validating a novel instrument for measuring partner preference. Doing this in a robust manner involves (i) understanding how the constructs within the framework relate to the factors known to determine relationship behaviour and outcomes; and, (ii) ensuring any new tool adds to, rather than replicates, other measures or predictors of relationship behaviour. This is particularly important given that there is only really one alternative model in use (ISM; Fletcher et al. 1999) which is well-established and widely studied. Studies 1 and 3 (see: Chapters 2 and 3) will test the relationship of ideal partner preference, as measured by the new tool, with Big Five personality traits. Studies 4 and 5 (see: Chapter 4) will examine preference, Dark Triad personality traits and emotional intelligence. Study 6 (see: Chapter 5) will test the relationship between preference, love style and romantic beliefs. Study 7 (see: Chapter 6) will test the relationship between quantitatively expressed preference – i.e. as indicated via the new tool - and qualitatively expressed preference; this is important for further validating the factors and for understanding latent traits in more depth.

1.5.4. Testing ideal partner preference in established relationships. As discussed in this chapter, articulation of hypothetical preference is both valid and useful; specifically, previous studies have found that latent traits predict romantic preference when abstracted, and that ideal partner preferences expressed in the

abstract do predict actual romantic behaviour (see: sections 1.2.1. and 1.3.2).

Perceived similarity (and difference) has also been shown to be as important as actual similarity, or moreso, at all stages of romantic relationships (see: sections 1.2.2.1 and 1.3.1.2.4). Related to this, the chapter has illustrated how both self-report and partner-report data gathering is accepted as good practice within the field of relationship science.

In addition to ensuring the new framework is robust, defensible and makes a distinct, additional contribution to the literature, the thesis will seek to understand its usefulness and validity in established relationships as well as in the abstract. Studies 1, 3, 4, 5, 6 and 7 (see: Chapters 2-6) will use self-report data gathered from single people. Study 2 (see: Chapter 2) will use data from individuals who are single as well as those in relationships. Study 8 (see: Chapter 7) will gather data from both partners in a sample of couples, to undertake initial exploration of the relationship between preference, as measured by the new framework, relationship behaviour and romantic outcomes.

CHAPTER 2: *Personality Predictors of Dating
Eligibility and Preferred Characteristics of an
Ideal Romantic Partner*

STUDY 1

2.1. Introduction

2.1.1. The importance of understanding psychological compatibility in romantic relationships. Historically, research into the psychology of close personal relationships was dominated by theoretical models from evolutionary psychology and focus on psychological processes within the individual (M. S. Clark & Reis, 1988). From the wealth of research in this area, it became well-established that physical attraction is a central tenet of romantic partner selection (D. M. Buss, 1989; Langlois et al., 2000). Significant interest in the impact of psychological processes relating to dyadic interaction began to grow in the 1980s (M. S. Clark & Reis, 1988) and it is now agreed that a wide range of psychological factors, over and above physical attraction, play a critical role in determining romantic compatibility (Nevid, 1984; for review, see: Chapter 1, section 1.2). This later research has demonstrated personality to be a particularly important area of study (M. L. Cooper & Sheldon, 2002). Owing to the explosion in popularity of digitally-mediated methods of partner selection over the last decade (for review, see: Chapter 1, section 1.3), there has been even greater focus on the science of interpersonal attraction (Finkel & Eastwick, 2015) and the relationship between personality and dating behaviour (Jeffrey A. Hall, Park, Song, & Cody, 2010; Morgan et al., 2010). In particular, there has been a call for concerted efforts to support conceptual synthesis in the field (Durante et al., 2016; Finkel & Baumeister, 2010; Finkel et al., 2017). There is, therefore, an academic imperative to advancing study of romantic partner selection at the present time (see also: Chapter 1, section 1.2).

In the US alone, 15 per cent of adults (approximating 38 million people) have used digital platforms to find a partner (A. Smith, 2016). Many of these services

“claim that they have fundamentally altered the dating landscape for the better” (Finkel et al., 2012, p. 3). A large proportion of sites or apps offer compatibility tests to profile and match users; i.e., to identify to users those others with whom they are most likely to achieve romantic success (Finkel et al., 2012; Houran, Lange, Rentfrow, & Bruckner, 2004). Where this involves gathering self-report data, users typically complete personality inventories and provide demographic information as well as a range of other data including, such as details of their interests, aspirations, philosophical or religious beliefs, day-to-day behaviours, life experiences and values (eHarmony UK, n.d.; Finkel et al., 2012; Krzywicki et al., 2015; Rudder, 2013). Not only is much of the detail of matching algorithms proprietary and, therefore, unpublished or potentially biased, but unlike the majority of measures used in academic studies, the questionnaires users complete can be extremely lengthy, with profiling based on data from up to several hundred questions (Finkel et al., 2012; Mitchell, Robert, 2009; Stinson & Jeske, 2016). It would be useful, therefore, to develop a way of capturing brief self-report data to support partner selection that can be published. As discussed in Chapter 1, being asked to define preference has become commonplace. This trend is in the context of romantic dyadic permanence as a cultural norm in Western societies yet people often do not know what they want from another person, or how their own behaviours, traits and preferences are likely to align (or not) with those of someone else. Taken together, these factors indicate that having a clear understanding of the characteristics likely to render a potential partner suitable should benefit people irrespective of the route to partner selection they use. In addition to the academic drivers for this work, there is, therefore, a social imperative to advancing study of romantic partner selection at the present time (see also: Chapter

1, section 1.1). This could usefully be done, at least in part, by the development of an evidence-based measure for understanding ideal partner characteristics.

2.1.2. Personality dimensions of compatibility. The matching successes claimed by some online sites have been challenged (Bialik, 2009; Finkel et al., 2012). In particular, the algorithms that underpin compatibility profiling services have been criticised for being too narrowly focused, with an over-reliance on principles of similarity and complementary limiting their ability to effectively predict positive long-term relationship outcomes between hypothetical partners (Finkel et al., 2012; Tierney, 2013). However, despite this, and with broader criticism of academic focus on individual personality variables in dyadic compatibility (Shiota & Levenson, 2007; Winch, 1974), there is a wealth of evidence suggesting that both trait similarity and complementarity are important in predicting positive relationship outcomes and, as discussed in Chapter 1, similarity models dominate overall.

While Neuroticism is the most significant Big Five dimension to predict negative relationship outcomes (see: Chapter 1), if looking more widely than the five-factor model, Machiavellianism and secondary psychopathy have been found to correlate negatively with intimate relationship behaviour and ideals, while - more surprisingly – positively correlate to primary psychopathy (Ali & Chamorro-Premuzic, 2010; Finkel et al., 2012; Ináncsi et al., 2016). This, in conjunction with the recognised paucity of literature on the role played by Dark Triad traits on partner selection and romantic relationships (Ali & Chamorro-Premuzic, 2010; Ináncsi et al., 2016; Jonason & Kavanagh, 2010; Jonason, Luevano, & Adams, 2012) signifies the importance of further study in this area.

Similarity is important, not just in terms of core personality traits but also in respect of context-relevant dimensions. Context-specific personality predicts

relationship satisfaction (Slatcher & Vazire, 2009). A study using an integrative model to examine the impact of both core and context-specific aspects of personality on romantic relationship outcomes found that traits, values and life goals all predict relationship outcomes, although personality is particularly significant (Arránz Becker, 2013).

Studies of context-relevant dimensions have shown that people tend to be attracted to those to whom they are similar, in terms of economic status, education, political and religious orientation (Berscheid et al., 1971; D. M. Buss & Barnes, 1986; D. Byrne, London, & Reeves, 1968; Watson et al., 2004). Variables associated with these demographic domains are also predicted by personality. For example, Big Five traits have been shown to predict: entrepreneurialism (Caliendo, Fossen, & Kritikos, 2014; Leutner, Ahmetoglu, Akhtar, & Chamorro-Premuzic, 2014); money and asset management (S. Brown & Taylor, 2014); learning and academic performance (De Feyter, Caers, Vigna, & Berings, 2012; von Stumm & Furnham, 2012); political participation (Kanacri, Rosa, & Di Giunta, 2012); and religiosity (Gebauer et al., 2014).

The attraction-similarity theory (D. Byrne, 1961; D. E. Byrne, 1971) has been challenged (e.g., as described in Gebauer et al., 2012), as has the relationship between Big Five trait similarity and positive long-term outcomes (Shiota & Levenson, 2007). However, subjectively perceived similarity has been found to predict attraction – and romantic feelings – in the abstract (Tidwell et al., 2013). While people are able to discern effectively those personality traits for which it is important to be similar to an ideal partner (Zentner, 2005), it is likely that people’s uncertainty or ignorance about what they want in a mate leads them to under-value this similarity (Dijkstra & Barelds, 2010). In addition, a number of studies have found that couples’ overall

profile similarity (rather than similarity or differences on individual dimensions) is particularly important for predicting both relationship success (Arránz Becker, 2013; Gaunt & Gaunt, 2016; Gonzaga et al., 2007) and initial attraction (Tidwell et al., 2013).

2.1.3. Ideal partner preference and eligibility. As well as providing information about themselves, users of dating services are typically asked to describe the characteristics of their ideal partner. It is acknowledged that people hold and can express romantic ideals: they can conceptualise preferred characteristics which, if embodied, would render a potential partner ‘eligible’ (i.e., desirable and valuable) as a romantic partner (Figueredo et al., 2006; Fletcher et al., 1999). It is also known that there are individual differences found within these ideals (Eastwick, Finkel, et al., 2011; Fletcher, 2008). The notion of ‘eligibility’ is therefore complex and unlikely to be interpreted or conceptualised consistently (for review, see: Chapter 1, section 1.2.2.2).

While there is some concern that expressed preference is not a valid predictor of ideal preference in relationship initiation (Eastwick, Luchies, Finkel, & Hunt, 2014), the methodologies used in studies making this case have been limited (Conroy-Beam & Buss, 2016). There is evidence that identifying these differences in the abstract - i.e., before potential partners meet - can indicate actual preference (Eastwick et al., 2014; D. Wood & Brumbaugh, 2009); this also fits with the established finding that stated intention predicts behaviour (Sheeran, 2002; Webb & Sheeran, 2006). Furthermore, a novel study - tracking expressed preferences of single people before and after they make a transition to a relationship - found a significant, positive correlation between abstract stated ideals and actual partner qualities following relationship formation (Campbell, Chin, & Stanton, 2016). Finally, where

there is an apparent mismatch between expressed and actual preference, it is important to consider the reason for this. Such a gap can occur when a person is asked to consider the ideal nature of a long-term partner, but is assessed behaviourally in a short-term dating context (in which case, the expressed preference would not necessarily be invalid), or when the real-life partner selection context does not offer any suitable partner options; therefore, the preference one can express is both limited and artificial (Li & Meltzer, 2015). The study of hypothetical expressed preference, and its impact on later outcomes, remains an important area for ongoing research (Campbell & Stanton, 2014; Conroy-Beam & Buss, 2016; Li & Meltzer, 2015).

It is advantageous for a person to understand their own value as a mate (Back, Penke, Schmukle, & Asendorpf, 2011). Some aspects of self-rated eligibility have been found to predict the partners we choose to pursue, such that we choose partners of similar mate value (Symons, 1987) - an effect that has been shown to be stronger for women than men (Edlund & Sagarin, 2010; L. Lee, Loewenstein, Ariely, Hong, & Young, 2008). However, prominent work on self- and other ratings has focused particularly on one aspect of eligibility alone, for example, physical attractiveness (e.g. L. Lee, Loewenstein, Ariely, Hong, & Young, 2008) or personality (Watson, Hubbard, & Wiese, 2000). It would be useful to explore whether eligibility can be considered as a concept in and of itself, that is to say, an over-arching rating of how appealing one rates oneself or others. It would also be important to then understand the relationship between this concept, specific aspects of romantic partner preference, and personality (given its importance for predicting relationship outcomes, see: Chapter 1, section 1.2.2).

Recent literature on ideal standards indicates that relationship satisfaction is driven by identifying a partner who meets or exceeds our ideal (Fletcher & Simpson,

2000). It is also the case, however, that we can seek people so much more eligible than ourselves that our standards are unrealistic and unachievable (Figueredo et al., 2006; Valentova, Štěřbová, Bártová, & Varella, 2016). Aiming too high, in this way, occurs online as well as offline (Finkel, Eastwick, Karney, Reis, & Sprecher, 2016). It is also known that the more long-term the relationship sought, the more important ideal standards become - and the more demanding one is of potential partners in terms of the characteristics they must possess (Fletcher et al., 2004). Similarly, relationship “deal-breakers” – the qualities an ideal partner should not possess – are greater in number for people with higher mate value, as well as for people seeking long-term (rather than short-term) relationships (Jonason, Garcia, et al., 2015). Accordingly, effective partner selection, and ultimately long-term romantic success relies on an ability to accurately assess potential partners’ qualities (Castro & de Araújo Lopes, 2011) and to rate those qualities against benchmark ideals, with a closer match being more positively appraised (Campbell et al., 2001; Fletcher et al., 2000, 1999; Strauss, Morry, & Kito, 2012).

The most prominent work on ideals in romantic relationships elicited a three-factor structure, comprising *Warmth-Trustworthiness*, *Vitality-Attractiveness* and *Status-Resources* (Fletcher et al., 1999). These *Big Three* preference domains correlate to *Big Two* personality dimensions (Gebauer et al., 2012). While scale domains have been supported in subsequent studies (Campbell et al., 2001; Fletcher et al., 2000, 2004), the work was contextualised within an evolutionary psychology framework; the scale items are derived from a factor analysis on items provided by a sample of undergraduates who listed the qualities they seek in an ideal partner, rather than from the starting point of established theoretical principles.

Given the need for a more integrated approach to understanding partner selection (Eastwick et al., 2017; Finkel et al., 2017), there is scope to develop a framework which encompasses a broader range of personality characteristics that is driven by Big Five theory and is informed by - but not limited to - principles established in evolutionary theory. This framework could also usefully integrate context- and domain-specific factors, which are known to play an important role in relationship function (Finkel et al., 2017), including those which are not “normatively desirable” (Eastwick, Eagly, et al., 2011, p. 1015): the present study aims to address this.

2.1.4. Measuring ideal partner characteristics. There are challenges in measuring expressed romantic ideals and their relationship to personality factors at the present time, specifically in respect of the limited scope of scales currently available and the theoretical divergence of the interpersonal attraction literature (Finkel & Eastwick, 2015). The academic literature on ideal partner preferences has been heavily influenced by evolutionary psychology (Eastwick et al., 2014) and, while there is evidence that individual differences in personality predict relationship outcomes (Robins et al., 2000), there is a relative paucity of research on individual differences in preferred partner characteristics (Dijkstra & Barelds, 2010). There is a need for studies to focus explicitly on “...the individual differences hypothesis directly—ignoring participant sex in favor of the participant’s own ratings of his or her ideal partner preferences.” (Eastwick et al., 2014, p. 633).

2.1.5. Rationale for the present study. In order to overcome the shortage of evidence on the subjective and objectively-rated mate value or eligibility, as well as individual differences in mate preference, the aim of this research was to explore associations among a range of personality factors (assessed by validated psychometric

tests), eligibility (assessed by three independent interviewers) and the individual mate preference characteristics deemed desirable in a potential partner (assessed by a purposely-designed self-report inventory, the Ideal Partner Questionnaire [IPQ]). The IPQ is situated in the context of Big Five theory, and informed also by context- and domain-specific factors identified by the literature as being important predictors of relationship choices and outcomes. As this will be a novel measure the study provides an original contribution to existing literature. The use of a panel of independent reviewers to appraise global eligibility also adds to the evidence base in this area which has hitherto been over-shadowed by an evolutionary conceptualisation of ‘mate value’.

While simple bivariate correlational studies have their limitations, it has been noted that, in relationship research studies of this type, it provides a useful foundation on which to build (M. L. Cooper & Sheldon, 2002). The present correlational study will inform the development of a scientifically valid tool, encompassing a range of individual difference factors relating to values, ideals and personality traits, that could be used across contemporary partner selection contexts. In addition, it seeks to explore the critical issues identified, specifically by testing how personality similarity relates to the subjective concept of an ideal partner using novel domains. This responds to the recent finding that, “as far as personality similarity in romantic couples is concerned, the everlasting question about who is a person’s perfect match has not yet been answered satisfactorily” (Furler, Gomez, & Grob, 2013, p. 369).

2.1.6. Hypotheses.

H1. Consistent with the theory that people prefer romantic partners like themselves, there will be significant correlations between participants’ own personality

profile and the preferred profile of an ideal romantic partner as tested by the novel measure.

H2. Participants' personality profile will be significantly related to the personality of their ideal partner, even after controlling for demographic factors.

H3. Ratings of participants' eligibility (made by three independent judges who are blind to the participants' test scores) will be partly explained by individual differences. Specifically, it is expected that eligibility will be positively related to agreeableness, conscientiousness, openness, extraversion and emotional stability; and negatively related to Machiavellianism, psychopathy and aggression.

H4. Personality variables will predict objectively-rated eligibility rating after controlling for demographic factors.

2.2. Method

2.2.1. Participants and procedure. A total of 395 participants provided data, ranging in age from 20 to 45 years old (mean age = 27.35 years; SD = 4.89 years).

There was an approximately even gender split (female: $n=207=52.4\%$; male: $n=188=47.6\%$). The study sample for the study was drawn from the pool of applicants shortlisted to appear on a reality TV show exploring the nature of attraction.

Participants completed the set of inventories under supervised conditions, so that if selected for the show they could be matched with their ideal partner.

2.2.2. Measures.

Demographic data was obtained for all participants. In addition to providing details of their age and gender, participants completed four Likert-type scales concerning educational attainment, income, religiosity and political persuasion. To rate eligibility, each participant was interviewed separately by a panel of three

interviewers, who then provided an independent rating of eligibility on a 10-point scale (1 = 'least eligible', 10 = 'most eligible'), with the mean of the three scores for each person being recorded. The raters were provided with no information on the participants' personality profiles. Eligibility ratings showed high inter-rating reliability ($\text{Alpha} = .79$). Participants also completed the three self-report personality inventories described in this section.

The **Ten-Item Personality Inventory** (TIPI; S. D. Gosling, Rentfrow, & Swann, 2003) is a brief inventory measuring the Big Five personality characteristics: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness. It comprises 10 pairs of adjectives - two pairs for each Big Five construct. Participants are asked to rate the extent to which each pair of adjectives describes them using a 7-point Likert scale (1 = 'not at all'; 7 = 'very much'). TIPI ratings converge with other established measures of Big Five traits, with both test-retest reliability and external correlations being established (S. D. Gosling et al., 2003); its validity compares favourably to that of other brief measures (Furnham, 2008). The comprehensive nature of this model renders it useful for research into personal relationships (Barelds & Dijkstra, 2011) and can be used to predict both real-world outcomes (as discussed in Iggio, Watring, & Throckmorton, 1993) and initial dyadic perceptions (Cuperman & Ickes, 2009).

The **Mach-IV Test of Machiavellianism** (Mach-IV; Christie, 1970a) is a three-dimension, 20-item inventory testing: tactical behaviour (interpersonal manipulation and/or deception for personal gain); cynical views about other people and the world; and disregard for conventional morality. The validity and reliability of the instrument is well-established (Fehr & Samson, 1992) and has been widely used to test individual

traits (for review, see: Furnham, Richards, & Paulhus, 2013), including in the context of dyadic relationships (Ali & Chamorro-Premuzic, 2010; Ináncsi et al., 2016).

The Levenson Self-report Psychopathy scale (Levenson et al., 1995) is a 26-item, two-factor, self-report inventory assessing psychopathic personality traits and associated behaviours in non-institutionalised samples. The two-factor structure underpinning the scale has been shown to equate to those of Hare's Revised Psychopathy Checklist (PCL-R; Hare, Harpur, Hakstian, & Forth, 1990), widely accepted as the best available tool for assessment of psychopathy. The 16-item primary psychopathy scale – related to PCL-R Factor 1 - assesses personality traits associated with psychopathy, such as selfishness, tendency to manipulate, lack of empathy etc. (as per Cleckley, 1955). The 10-item secondary psychopathy scale – related to PCL-R Factor 2 - assesses the behaviour associated with psychopathy, such as engagement in anti-social and/or criminal activity, impulsivity and recklessness. The LSRP has been shown to be both reliable and valid (McHoskey, Worzel, & Szyarto, 1998).

The **Ideal Partner Questionnaire (IPQ)** is a brief, 25-item inventory designed purposely for this study to identify participants' preferred characteristics in a romantic partner. Given the wealth of evidence that Big Five characteristics predict partner selection, relationship behaviour and romantic outcomes, the factors within this personality model provided the initial, high-level framework for the tool. Item generation was driven by a rapid evidence assessment to identify empirical literature that (i) summarised the components of 'matching' inventories used by dating (online or offline) services; and, (ii) reported behavioural correlates of Big Five personality factors (e.g Cuperman & Ickes, 2009; Funder & Sneed, 1993). Matching inventory analysis indicated that people were typically asked to provide details on personality

attributes, as well as on preferred lifestyle and leisure activities, social and aesthetic values and aspirations. Some of these characteristics mapped nearly onto the Big Five domains, but others did not. Synthesising and clustering the outputs of both strands of the evidence review, adopting an inductive content analysis approach, indicated the need for five broad domains. Each domain represented a range of attributes, and items within them were easy-to-understand articulations of these attributes using everyday adjectives, as follows: *Artistic* (e.g., creative, unconventional, spiritual, open-minded); *Athletic* (e.g., sporty, health-conscious, enjoys the outdoors); *Friendly* (e.g., easy-going, unselfish, modest); *Gregarious* (e.g., trendy, impulsive, socially dominant); *Successful* (e.g., educated, rich, powerful, career-focused). In this way, the inventory sought to test both traits and behavioural manifestations of attitudinal values. Participants were asked to rate the importance of 25 characteristics in their ideal partner, using a 3-point Likert scale (1 = ‘not very important’; 3 = ‘very important’).

2.3. Results

2.3.1. Descriptive statistics. Table 2.1 shows the possible and observed ranges, mean scores (M) and standard deviations (SD) for all measures. The least sought-after partner characteristics were Successful attributes (M=9.57; SD =2.12), and the other four ideal partner dimensions were almost equally desirable (means ranged from 11.46 to 11.83).

Table 2.1.

Descriptive Statistics for All Measures

Variable	Alpha	Range	Observed	M	SD
Educational attainment	n/a	1-7	1-5	2.42	.91
Income	n/a	1-7	1-6	2.88	1.43
Religiosity ⁱ	n/a	1-7	1-7	2.01	1.33
Political persuasion ⁱⁱ	n/a	1-7	1-7	3.88	.99
Eligibility ⁱⁱⁱ	.79	1-10	2-10	6.95	1.31
Extraversion	.70	2-14	5-14	12.07	1.96
Agreeableness	.67	2-14	2-14	10.70	2.21
Conscientiousness	.63	2-14	2-14	10.92	2.43
Emotional stability	.73	2-14	4-14	10.62	2.36
Openness	.45	2-14	8-14	12.59	1.46
Primary psychopathy	.76	12-60	13-52	29.52	6.24
Secondary psychopathy	.77	12-60	10-55	19.43	4.58
Machiavellianism	.83	20-160	58-134	88.68	12.74
Artistic	.67	5-15	6-15	11.70	1.74
Athletic	.70	5-15	7-15	11.83	1.92
Friendly	.72	5-15	6-15	11.46	1.67
Gregarious	.75	5-15	6-15	11.62	1.98
Successful	.69	5-15	5-15	9.57	2.12

Note: $n=395$ for all variables, except (i) $n=393$ (ii) $n=337$; ⁱReligiosity: assessed the degree to which a person was religious (from 1 = not at all to 7 = extremely);

ⁱⁱPolitical persuasion: 1 = "left-wing"; 4 = "centre/neutral" 7 = "right-wing";

ⁱⁱⁱScoring as described in 2.2.2.

2.3.2. Correlational analysis: Demographic, personality trait and IPQ

variables. First, the study tested the relationship between demographic factors, traits and partner characteristics, Table 2.2 reports bivariate inter-correlations for all variables. Spearman correlations were conducted for those involving gender, Pearson correlations for all others.

Table 2.2.

Bivariate Correlation Coefficients: Demographic,¹ Trait² and IPQ Variables³

Measure	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Gender	-.03	-.03	-.04	-.02	-.06	.04	.04	.04	.03	-.02	-.03	-.06	-.05	-.01	.06	-.01	.02	.01
2. Age	—	.02	.41**	.07	.08	-.11*	.07	-.02	-.21**	-.06	-.01	.09	.03	.02	.00	-.17**	-.08	-.15**
3. Educ.		—	.08	.13*	-.01	.11*	.08	.12*	-.03	.16**	.03	.07	.06	-.07	.03	-.04	-.20**	-.02
4. Income			—	-.01	-.08	-.12*	.19**	-.05	-.02	.07	.07	-.05	.08	.10	-.03	.07	-.13**	-.02
5. Relig.				—	.06	.07	.11*	.12*	-.13*	.13**	-.01	.08	.02	.01	.06	.04	-.02	-.03
6. Political					—	.07	-.04	0.03	.05	-.16**	.03	.03	-.06	.10*	.01	-.07	-.01	-.11*
7. Artistic						—	.05	.29**	.03	.04	.04	.09	.08	-.06	.21**	-.06	-.02	-.15**
8. Athletic							—	.18**	.16**	.27**	-.04	-.01	.09	.14**	.06	.04	-.10*	.01
9. Friendly								—	.02	.20**	-.10	.12*	.07	.03	.02	-.04	-.09	-.05
10. Gregar.									—	.22**	.17**	-.01	-.08	.01	.05	.05	.08	-.01
11. Successful										—	.06	-.08	.16**	-.03	.01	.20**	-.05	.10
12. Extra.											—	.12*	-.01	.17**	.19**	.03	-.09	-.09
13. Agree.												—	.06	.21**	.08	-.28**	-.24**	-.27**
14. Consc.													—	.14**	-.06	-.03	-.27**	-.10*
15. Emot.St.														—	.04	.01	-.25**	-.11*
16. Open.															—	-.14**	-.03	-.12*
17. Pr.Psych.																—	.19**	.44**
18. Sec.Psych.																	—	.24**
19. Mach.																		—

Notes: ¹ Gender, Age, Education, Income, Religiosity, Political persuasion; ² Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience, Primary Psychopathy, Secondary Psychopathy, Machiavellianism; ³ Artistic, Athletic, Friendly, Gregarious, Successful; ** $p < .01$; * $p < .05$.

There were 30 possible correlations between demographic factors and the ideal partner domains, of which six were statistically significant at $p < .01$ (highlighted in bold on Table 2.2). There were negative significant correlations between age and Artistic and Gregarious; i.e., older people are less likely to want someone with characteristics relating to these factors than younger people. Educational attainment correlated positively and significantly with Successful scores. There was a positive relationship between income and Athletic scores (i.e., wealthier people are more likely to seek sportier partners), while religiosity correlated significantly and positively with Successful. Political persuasion correlated significantly with only the Successful ideal partner domain; this was a negative relationship, suggesting that that more left-wing participants are more likely they are to want a Successful partner.

Of the 40 possible correlations between personality factors (Big Five factors; primary and secondary psychopathy; and Machiavellianism) as well as the five ideal partner domains, six were statistically significant (highlighted in bold on Table 2.2 and identified below).

A number of correlations supported the similarity-attracts principle, given the conceptually related (or conceptually opposing) constructs within each correlation: Extraversion correlated positively with Gregarious ($r = .17, p = .01$); Conscientiousness correlated positively with Successful ($r = .16, p = .01$); Openness correlated positively with Artistic ($r = .21, p = .01$); and Emotional Stability was found to correlate positively with Athletic. ($r = .14, p = .01$). In addition, there were several correlations that did not seem so obvious: primary psychopathy was found to correlate positively with Successful ($r = .20, p = .01$), while Machiavellianism correlated negatively with Artistic ($r = -.14, p = .01$). As data were non-normally distributed, non-parametric correlations

were also conducted but were virtually identical. In summary, H1 was partially supported.

2.3.3. Multiple regression analysis: Demographic, personality trait and IPQ variables. Five forced-entry multiple regressions were performed on the data to determine the extent to which personality factors can predict expressed preference in each of the ideal partner domains: Artistic, Athletic, Friendly, Gregarious, Successful. In each case, demographic factors were entered as block one and the personality factors entered as block two. Results are presented in Tables 2.3 and 2.4.

Table 2.3

Multiple regression model for IPQ factors and demographics (Model 1): standardised weights and adjusted R square

IPQ factors ¹		Art.	Ath.	Fri.	Gre.	Suc.
Model 1 (demographics)						
Beta weights	Gender	.02	.02	-.01	.04	-.02
	Age	-.09	-.03	.00	-.25**	-.08
	Educ.	.14	.07	.10	-.02	.17**
	Income	-.08	.16*	-.04	.11	.08
	Religion	.07	.10	.08	-.13*	.11*
	Political	.07	-.03	.03	.08	-.16**
	Eligibility	-.10	.06	-.05	.02	.12*
R2		.06	.06	.02	.08	.10
Adj. R2		.04	.04	.00	.06	.09

Note. ¹ IPQ factors: Artistic, Athletic, Friendly, Gregarious, Successful. ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$.

Table 2.4

Multiple regression model for IPQ factors, demographics and Big Five variables

(Model 2): standardised weights and adjusted R square

IPQ factors ¹		Art.	Ath.	Fri.	Gre.	Suc.
Model 2 (demographics and personality²)						
Beta weights	Gender	.01	.02	-.01	.03	-.00
	Age	-.11	.01	-.02	-.26**	-.05
	Educ.	.13*	.07	.08	-.02	.16**
	Income	-.07	.13*	-.02	.12	.04
	Religion	.06	.09	.07	-.12*	.10*
	Political	.07	-.04	.03	.07	-.14**
	Eligibility	-.08	.06	-.06	.04	.09
	Extra.	.01	-.06	-.12	.14*	.06
	Agree.	.05	-.04	.07	.04	-.06
	Consc.	.11*	.02	.04	-.05	.17**
	Emot.	-.11	.12*	-.00	-.05	-.04
	Open.	.17**	.09	.02	.01	.04
	Pr.Psy.	.03	.07	.02	-.02	.13**
	Sec.Psy.	.03	-.06	-.07	.06	-.04
	Mach.	-.16*	-.00	-.06	-.05	.03
R2		.14	.09	.06	.11	.17
Adj. R2		.10	.04	.01	.07	.13

Note. ¹ IPQ factors: Artistic, Athletic, Friendly, Gregarious, Successful. ² Personality factors: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness, Primary Psychopathy, Secondary Psychopathy, Machiavellianism ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$.

For the Artistic factor, the personality factors explained an additional 6% of the variance after controlling for demographic factors (AdjR^2 for combined model = .10; $F(15,319)=3.50$, $p<.001$). Regarding the Athletic, Successful and Gregarious factors, personality variables were found to be significant predictors, but explained between only 1% and 4% of the variance in expressed preference in each case: for Athletic, $\text{AdjR}^2 = .04$; $F(15,319)=2.02$, $p<.05$; for Gregarious, $\text{AdjR}^2 = .07$; $F(15,319)=2.73$, $p<.01$; for Successful, $\text{AdjR}^2 = .13$; $F(15,319)=4.25$, $p<.001$. Personality factors were not found to be significant predictors of characteristics in the Friendly domain (AdjR^2 for combined model = .01; $F(15,319)=1.32$, $p>.05$). Scatterplots and tests for collinearity indicated that assumptions of homogeneity of variance and linearity were met for all models. Residuals for Athletic, Friendly, Gregarious and Successful models approximated a normal distribution. Distribution of residuals for the Artistic model was non-normal (i.e. slightly negative skewed), however, both skewness and kurtosis was within the acceptable range (± 2). Overall, H2 was very weakly and only partially supported.

2.3.4. Correlational analysis: Eligibility, demographic, personality trait and IPQ variables. This part of the study tested the relationships between demographic factors, traits and ideal partner characteristics and eligibility. Table 2.5 reports correlations of all variables with eligibility. Spearman correlations were conducted for those involving gender, Pearson correlations for all others.

Table 2.5.

Bivariate Correlation Coefficients: Eligibility, Demographic¹, Trait² & IPQ Variables³

Measure	Eligibility
1. Gender	-.03
2. Age	.02
3. Education	.16**
4. Income	.26**
5. Religiosity	-.03
6. Political	-.04
7. Artistic	-.11
8. Athletic	.11*
9. Friendly	-.05
10. Gregarious	.04
11. Successful	.17**
12. Extraversion	.01
13. Agreeableness	-.05
14. Conscientiousness	.13*
15. Emotional Stab.	.03
16. Openness	-.10
17. Prim. psychopathy	.07
18. Sec. psychopathy	-.18**
19. Machiavellianism	.05

Note. ¹ Gender, Age, Education, Income, Religion, Political persuasion;

²Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience, Primary Psychopathy, Secondary Psychopathy, Machiavellianism; ³

Artistic, Athletic, Friendly, Gregarious, Successful; ** $p < .01$; * $p < .05$. ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$.

There were 19 possible correlations, four of which were statistically significant at $p < .01$. Eligibility correlated positively with the IPQ domain Successful, as well as with education and income. In addition, there was a significant negative correlation with secondary psychopathy.

The positive correlations all support the socio-biological theories of partner selection. Although the negative correlation with secondary psychopathy supports previous research, this is the only statistically significant correlation between the eligibility score and a personality variable; H3 was partially supported.

2.3.5. Multiple regression analysis: eligibility, demographic, personality trait and IPQ variables. A forced-entry multiple regression was performed on the data to determine the extent to which personality factors can predict eligibility. In each case, demographic factors were entered as block one and the personality factors entered as block two. Results are presented in tables 2.6 and 2.7

Table 2.6

Multiple regression model for eligibility and demographics (Model 1): standardised weights and adjusted R square

Eligibility		
Model 1 (demographics)		
Beta weights	Gender	-.02
	Age	-.10
	Educ.	.15**
	Income	.29**
	Religion	-.04
	Political	.00
R2		.10
Adj. R2		.08

*Note. ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$.*

Table 2.7

Multiple regression model for IPQ factors, demographics and Big Five variables

(Model 2): standardised weights and adjusted R square

Eligibility		
Model 2 (demographics and personality¹)		
Beta weights	Gender	-.01
	Age	-.09
	Educ.	.12*
	Income	.25**
	Religion	-.04
	Political	.01
	Extra.	.01
	Agree.	-.05
	Consc.	.06
	Em. Stab.	-.01
	Open.	-.08
	Pr. Psy.	.02
	Sec. Psy.	-.15*
	Mach.	.05
R2		.13
Adj. R2		.10

Note. ¹ *Personality factors:* Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness, Primary Psychopathy, Secondary Psychopathy, Machiavellianism ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$.

After controlling for demographic factors, personality factors explained only an additional 2% of the variance: $F(14,320)=3.56$, $p<.001$. Income was the most significant predictor in the model ($B=.25$, $p<.01$), followed by secondary psychopathy ($B=-.15$, $p<.05$) and education ($B=.12$, $p<.05$). H4 was weakly supported.

2.4. Discussion

This study sought to explore in more detail the nature of expressed preference for a romantic partner; specifically, to understand the impact of individual differences in personality on objectively rated eligibility and ideal partner characteristics.

2.4.1. Do individual differences predict preferred partner characteristics?

The results support the view that individual differences in personality predict preferred partner characteristics. Many of the statistically significant correlations supported previous findings, that similarity is a predictor of romantic compatibility; for example, one would expect a person who is open and friendly to seek similar qualities in a partner and, indeed, Big Five Openness correlated significantly and positively with Artistic (a domain which encompasses the trait open-mindedness). In the same way, extraverts are typically energised by interacting socially and the concept of sociability is implicit in the Gregarious ideal partner domain. The same principle applies to the relationship between Conscientiousness and the Successful IPQ domain.

Despite the support for the similarity hypothesis, very little variance was explained by the personality factors in the regression models. One explanation for this could be that there is no difference in preference, however, this is inconsistent with strongly established theory (see: Chapter 1, section 1.2.2) and with the variation in preference identified by differences in mean scores for the IPQ factors in the present study. This is also supported by the fact that the IPQ sought to measure attitudinal

values and preferences that differentiate one person's perception of ideal from another's; i.e., there are no obvious positive or negative characteristics or domains.

While ideal partner characteristics are only weakly related to individual differences in personality, it is likely that there are other factors explaining variation in preference not encompassed by personality alone. When considering a potential partner, the tacit knowledge that there is a range of possible partners available is likely to introduce an element of differentiation in terms of what the ideal would look like. It could be that this process also involves conceptualising the relative trade-offs to be made in respect of different characteristics, consistent with the underpinning principles of interdependence theory (Kelley & Thibaut, 1978). They make an original contribution to the existing literature by confirming that personality is a critical factor in predicting partner selection within a novel context (a TV dating show) and using a novel measure. This support for established findings from previous research also indicates the IPQ tool has the potential for further development, as does the finding that variations in preference result from individual differences other than personality.

2.4.2. Do eligible partners share personality characteristics? The eligibility score used in this study was particularly interesting owing to its internal validity. As discussed (see: Chapter 1) most often, eligibility is rated using very specific attributes known to be desirable, or the language of evolutionary psychology. This study therefore makes a unique contribution to the literature through successful application of the three-person independent reviewer methodology, and the use of a broad rating of general eligibility. It was surprising, therefore, that this score correlated with so few variables - only one of which related to personality and only one to an IPQ domain. While the relationships with education, income and the Successful domain supports the socio-biological theories of attraction, the fact that there was a significant negative correlation between eligibility and secondary psychopathy – but none of the other dark personality traits - would suggest there is further work to be done before we can answer the question posed. It would be useful to re-test relationships with a refined version of the IPQ tool. More specifically, as this study was exploratory in nature, it will be important to conduct a factor analysis on the items included; this may also help illustrate why personality factors were not significant predictors of characteristics in the Friendly domain, but did explain variance in all other IPQ domains. It will also be useful to explore how personality and IPQ scores are correlated with self-rated eligibility to determine whether, for example, the subject's own perception of his/her eligibility moderates their expectations of a partner and if/when any trade-offs take place.

2.4.3. Limitations & recommendations for further study. The most notable limitation of the current study relates to the fact that applicants to a reality television show may well be atypical of the normal population; indeed, some of the results suggest this is the case. The sample mean for Machiavellianism, for example, is above

the norm, suggesting a disproportionately large number of *High Machs* (i.e., those scoring > 60 on the Mach-IV). There may also be bias owing to demand characteristics. Again, participants of this study were trying to be selected for the TV show. Even though they were told the purpose of completing the battery of tests was to match them with a partner, they may also have been trying – consciously or not - to anticipate what the potential pool of partners on the show will be like to position themselves favourably for selection: over-reporting those characteristics perceived to be more positive, and under-reporting those deemed disadvantageous. Therefore, this study could usefully be repeated with a random population sample, which would also have clear benefits for the online dating industry’s matching activities given that it is now known that personality profiles of the online and offline populations do not significantly differ (Gatter et al., 2016; Valkenburg & Peter, 2007).

The second major limitation relates to the IPQ instrument. The IPQ has good internal validity but, as noted, this is a new instrument that has not yet been tested with different samples in a range of different environments, nor have the items been subject to factor analysis. It may be useful to further test the generalisability of the instrument, as well as exploring the context-specificity of the “ideal partner” concept. Given the wide range of response bias problems associated with scalar instruments (see: van Herk, Poortinga, & Verhallen, 2004), it will be important to review and consolidate the methodological theory underpinning the tool, as well as the factor structure on which the characteristic domains are founded. Related to this, we know that trade-offs occur in partner selection, in that certain qualities are deemed more or less important depending upon the presence (or absence) of other qualities. It may be useful to explore potential trade-offs in more detail, such as by presenting participants with choices to make in respect of ideal partner.

STUDY 2

2.5. Introduction

2.5.1. Trade-offs occurring in partner selection. Recent years have seen a particular interest in studying the functional aspects of ideal partner characteristics (Eastwick, 2016; Eastwick et al., 2014). As discussed in Chapter 1, a wealth of literature has found that people seek others who are like themselves on a range of psychological, demographic and cultural dimensions. However, there are some anomalies in this respect: the concept of an ideal partner differs from one person to the next such that characteristics (or combinations of characteristics) one person finds appealing, another would not. Research into the psychological processes underpinning partner selection has grown over recent years – aligned with the explosion of novel platforms for partner selection (see: Chapter 1, section 1.3.1). In spite of this, there remains much to be learned about partner selection. There is further work to be undertaken to explore the relationship between Big Five domains and preference, in particular, given the the mixed results in relation to Extraversion, Openness and Agreeableness in particular, from studies on positive assortment (Espinel & Martín-Buro, 2011; Figueredo et al., 2006; Rammstedt & Schupp, 2008).

Consistent with established literature, Study 1 in this chapter found that people can articulate a mental construction of an ideal partner; i.e., a person that meets a set of desired standards (D. M. Buss, 1989; Eastwick, Finkel, et al., 2011; Fletcher et al., 1999). Results also supported previous evidence that individual differences in personality predict ideal partner preferences: different people have different ideals (de Brito Gomes, Gouveia, Silva Júnior, Coutinho, & Santos, 2013; Eastwick & Neff, 2012; Gouveia et al., 2005). Correlations were few, however, and only a very small amount of variance in ideal partner preferences was explained by personality.

Furthermore, the Likert scale design of the IPQ instrument did not permit meaningful analysis of the trade-offs that occur during partner selection. While it is known that such trade-offs occur (Fletcher et al., 2004; Li et al., 2002), there remain unanswered questions about their nature, particularly in terms of how they relate to personality (Dijkstra & Barelds, 2007; Figueredo et al., 2006), relationship status, relationship length and sexuality.

Much of the evidence on predictors of mate choice and conceptualisations of ideal partner preference is found in the evolutionary psychology literature. The importance of visual cues to attractiveness is beyond debate (for review, see: Langlois et al., 2000) and numerous studies have explored psychological predictors of romantic attraction (e.g. Swami et al., 2010). It is accepted that gender is a significant determinant of partner selection strategy and individual differences in desired characteristics, both online and offline. In particular: the extent to which personality factors influence partner perception is associated with gender (Sibley & Overall, 2011); men of all ages place more importance than women do on sexual attractiveness (Abramova et al., 2016; Menkin, Robles, Wiley, & Gonzaga, 2015); higher-status men want more physically attractive women (e.g. Buston & Emlen, 2003), whereas women prioritise communication skills (e.g. Menkin et al., 2015), resources (Abramova et al., 2016; Castro & de Araújo Lopes, 2011), good genes, parenting ability and emotional intelligence (D. M. Buss, 1989; D. M. Buss & Shackelford, 2008). There is also, however, a growing body of evidence to suggest that earning potential is important to both men and women (Boxer, Noonan, & Whelan, 2015; Eastwick et al., 2014; Li & Meltzer, 2015); when considered in light of the finding that high educational attainment can impede romantic partner selection (Burt, Lewis,

Beverly, & Patel, 2010), this indicates that the definition of status may need to be examined further.

2.5.2 The relationship between values and personality. While people do not all aim equally high when it comes to partner selection (Eagly, Eastwick, & Johannesen-Schmidt, 2009), as summarised in 2.5.1 (for full review, see: Chapter 1) it is known that some people consider traits to be ideal that others would find undesirable (Eastwick, Finkel, et al., 2011). There is a paucity of evidence, however, about the individual differences that explain why individuals find varying combinations of characteristics (i.e., distinct from individual characteristics) desirable in a potential mate (Eastwick, Finkel, et al., 2011). In addition, while personality traits have been found to correlate to value variables generally (Bilsky & Schwartz, 1994), less is known about how personality traits relate to these factors; this informs the psychological construction of an ideal partner. Personality and values are related yet distinct concepts (L. Parks & Guay, 2009), and values are important in this context because they are a core component of identity (Pronin, Fleming, & Steffel, 2008): people consider their attitudinal values to represent who they really are, and romantic relationships can be understood as an extension of the self (A. Aron & Aron, 1986).

There has been a dramatic rise in the number of relationships that commence online (Toma, 2015; for review, see: Chapter 1, section 1.3.1.2). Where online interactions are *nonymous* (Zhao, Grasmuck, & Martin, 2008) rather than anonymous, people are more likely to behave in a way that represents an extension of their offline self, rather than presenting an idealised version of their own identity (Back et al., 2010). Online partner selection technologies have been criticized for over-focus on concrete “searchable attributes”, such as level of income or education achieved (J. H. Frost et al., 2008, p. 51); while, as previously described, these are important aspects

of partner selection, it is necessary to develop more sophisticated measures that address a wider range of components of mate value.

2.5.3 Rationale for the present study. To address the aforementioned identified gaps in both literature and partner selection technologies, the present study aims to: assess the underlying factors comprising the ideal romantic partner profile using a modified version of the bespoke Ideal Partner Questionnaire (IPQ) tool developed in Study 1; and test how these factors relate to individual differences in personality and demographic factors. To explore the partner preference constructs, the revised IPQ used comparative judgments (the forced-choice format); its structure was based broadly on the Big Five model of personality, the existing literature on ideal partner selection and the typical characteristics asked of individuals seeking romantic partners via dating service providers. This study will provide an original contribution to the literature given that it will use a novel, forced-choice measure to synthesise a range of variables important to partner selection. The design of the tool takes into account data from contemporary partner selection platforms, to provide a functional perspective, as well as academic theory. This, in addition to its foundation in Big Five theory (rather than evolutionary theory) provides a particularly novel addition to existing research and, in doing so, also supports the journey to conceptual synthesis within the field of relationship science.

2.5.4 Hypotheses.

H1. The forced-choice tool will enable good differentiation of ideal partner characteristics, identifying at least six factors that correspond to the six conceptual domains for which IPQ behavioural descriptions have now been written.

- H2. Consistent with similarity theory of attraction, there will be significant correlations between conceptually related personality factors and ideal partner characteristics, specifically:
- H2a Extraversion will correlate to a preference for a Friendly (Inter-personally) and Gregarious partner;
 - H2b Emotional stability will be correlate to a preference for a Friendly (Intra-personally) partner;
 - H2c Openness will correlate to a preference for an Artistic and Friendly (both Intra- and Interpersonally) partner;
 - H2d Agreeableness will correlate to a preference for a Sociable and Caring partner;
 - H2e Conscientiousness will correlate to a preference for a Successful and Friendly (Intra-personally) partner.
- H3. Demographic factors will correlate to ideal partner preference as measured by the IPQ, specifically:
- H3a Men more than women will prefer Image-conscious partners
 - H3b Women more than men will prefer Caring and Successful partners
 - H3c Single people more than those in relationships will prefer Outgoing partners
 - H3d People in longer relationships are less likely to prefer characteristics associated with the Outgoing factor
 - H3e There will be no significant difference between the preferences of people with different sexual orientation.

H4. Personality factors will predict ideal partner preference after controlling for demographic factors.

2.6. Methods

2.6.1. Participants and procedure. Participants were asked to complete a web-based study¹, advertised on a popular psychology blog: “exploring the relationship between personality and romantic compatibility”. The study was open to participants worldwide. An introductory page communicated ethical information and contact details. Participants completed the questionnaire, unsupervised, with no time limit, and received instant summary feedback based on their responses. The web-link remained active for eight weeks. Online responses are accepted as being consistent with those provided via offline methods (S. D. Gosling, Vazire, Srivastava, & John, 2004).

A total of 946 participants provided valid data; they were aged between 18 and 64 years old (mean age = 28.39 years; SD = 8.51 years). There was a majority of female respondents (valid per cent: female= 76.3%; male: 23.7%).

2.6.2. Measures. Participants were asked to provide demographic details, details of relationship status (specifically to state whether they were single or in a relationship and, if in a relationship, to state the relationship length) and to complete self-report inventories, as follows:

The Ten-Item Personality Inventory (TIPI; Gosling et al., 2003) measured the Big Five personality characteristics: Extraversion, Agreeableness, Conscientiousness,

¹ With thanks and acknowledgement due to Patrick Fagan (Goldsmiths College, University of London and www.psych-research.com) for programming and hosting the web survey.

Emotional Stability and Openness. Participants rated the extent to which each of 10 pairs of adjectives – two pairs per personality construct - describes them, using a 7-point Likert scale (1 = ‘not at all’; 7 = ‘very much’). TIPI has been established as reliable and valid (Furnham, 2008; S. D. Gosling et al., 2003).

Expressed preference for an ideal partner was measured using a pilot version of a bespoke tool - the ‘Ideal Partner Questionnaire’ (IPQ). This sought to refine and build on the tool developed in Study 1. As in the previous study, the inventory aimed to respond explicitly to the need for an integrative model of romantic attraction that recognises individual differences across a range of dimensions and synthesises personality and sociobiological theory.

Firstly, after Study 1’s results showed that none of the Friendly domain characteristics were explained by personality, this domain was separated out into two, reflecting the importance of both emotional intelligence and communication/sociability in interpersonal relationships (D. M. Buss & Shackelford, 2008; Lopes, Salovey, & Straus, 2003; Menkin et al., 2015; Schutte et al., 2001). This was achieved by distinguishing correlates of Big Five factors Agreeableness (associated particularly strongly with interpersonal skills) and correlates of Emotional Stability (associated strongly with intra-personal skills).

Building on the work undertaken to develop the tool used in study 1, item development for the IPQ involved extracting and thematically analysing the components of ‘matching’ tools or inventories within a sample (n=4) of freely available, popular online matching services. Questions asked of users were summarised or reworded for the purposes of thematic analysis with careful attention paid to ensuring the meaning was retained, and maintaining consistency with terminology used in the previous version of the tool e.g. “How important is it that

your partner is career-focused?” was recorded as “career-focused”. Consistent with the findings of the rapid evidence assessment in Study 1, this exercise confirmed that a significant proportion of questions asked of online dating users related to lifestyle choices, health behaviours, aesthetics, personal and family goals, and leisure activities. Mapping these against the ISM factors (Fletcher et al. 1999) there was considerable overlap, indicating that online dating tools typically encompassed established aspects of sociobiological theories of attraction (e.g. preference for children, importance of a partner’s earning potential or career). Thematic analysis and clustering of items supported the revised domain structure proposed as a result of the Study 1 findings specifically six domains representing a range of preferences for partner characteristics, namely: Artistic, Athletic, Gregarious, Successful, Inter-personally Friendly (e.g., sociable, empathic), Intra-personally Friendly (e.g., self-aware, emotionally stable).

The IPQ followed the multidimensional forced-choice (MFC) format: participants were presented with 60 pairs of items (each pair included characteristics from different domains, 120 characteristics in total) and, for each pair, asked to indicate which characteristic they would prefer to see in their ideal partner. Both negative and positive items were included, in accordance with the evidence that assortative mating takes into account both desirable and undesirable characteristics (Figueredo et al., 2006). The purpose of developing the forced-choice IPQ was to examine the trade-offs made by individuals between characteristics encompassed by different attitudinal value domains. Despite their popularity, single-stimulus items are subject to numerous response biases, including acquiescence, leniency, extreme and central tendency responding (van Herk et al., 2004) and to halo/horn effects (Murphy, Jako, & Anhalt, 1993). These biases can be a serious threat to validity. In value

measurement involving stimuli that represent ideal characteristics, halo effects can be particularly problematic. They occur due to lack of meaningful differentiation between different characteristics when using single-stimulus items i.e. respondents want all the desirable characteristics. Forced-choice response formats were designed to reduce such effects by requiring respondents to make comparative judgments.

2.7. Results

2.7.1. Analyses of partner preference data and refinement of the IPQ scales and scoring protocol. Despite proven reduction in response styles (Cheung & Chan, 2002) - particularly halo effects (Bartram, 2007) - the use of MFC questionnaires has been controversial until recently. If scored with traditional methodology, MFC instruments produce ipsative data, whereby all individuals have a common total test score. Scoring in this way distorts scale scores. This is because it is impossible to achieve all high or all low scale scores: high preference for one factor will impact on other factors by reducing the scores. There are additional problems related to construct validity (on the basis that correlations between scales must sum to zero), criterion-related validity (validity coefficients must sum to zero) and reliability estimates. Brown and Maydeu-Olivares (2011) demonstrate that the inadequate scoring of forced-choice items causes these problems. Advocating for the use of an item response theory (IRT) model based on Thurstone's Law of Comparative Judgment, Brown and Maydeu-Olivares (2011) provide a more appropriate analysis response process for data of this kind. This approach considers the outcome of preference judgment in each pair of items (which is binary: 1 if the first item preferred; 0 otherwise) in relation to the two domains that the items are supposed to measure. Thus, each pair of items produces one binary outcome, linked to two

dimensions, through non-linear functions. They note that this ensures adequate scoring, with reduced bias (A. Brown & Maydeu-Olivares, 2012). The Thurstonian IRT modelling approach was used here to conduct item factor analysis on the obtained forced-choice IPQ data (120 items from six hypothesised factors), as well as to refine the original scales in confirmatory fashion following the exploratory analysis.

The analyses showed that the hypothesised six factors could not adequately explain common variance in the items: at least seven factors were required. Moreover, the original item mapping did not always correspond to the clustering of items observed empirically. In addition, several items were found not to be good indicators of any factors. The seven factors identified were *Artistic*, *Athletic*, *Sociable*, *Caring*, *Outgoing*, *Successful* and *Image-conscious*. While *Artistic*, *Athletic* and *Successful* largely retained the intended meaning and content of the IPQ measure used, the other four scales yielded different combinations of items from those hypothesised. In addition, several items were found not to be good indicators of any factors. For example, "...is open to trying new things" was hypothesised to be an indicator of preference for an *Artistic* partner, however, this was not the case. Similarly, the negative item "...has few academic qualifications" did not load onto the *Successful* factor as expected. A summary of the revised factor structure, showing factor loadings from the analysis by gender, is presented in Tables 2.8 to 2.14. These tables also indicate the original hypothesised factors to which items were originally allocated.

Table 2.8.

Factor loadings for the Artistic factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
1	Artistic	...goes to theatre regularly	0.55	0.61
3	Artistic	...always knows where to find an interesting art gallery	0.74	0.10
5	Artistic	...is not particularly interested in music	-0.31	-0.37
7	Artistic	...has a vivid imagination	0.25	0.55
9	Artistic	...loves poetry	1.29	0.93
11	Artistic	...is artistically inclined	0.75	0.55
15	Artistic	...loves classical music	0.32	0.34
17	Artistic	...is creative	0.68	0.52
19	Artistic	...is unconventional and eccentric	0.63	0.63
23	Artistic	...is not interested in science	-0.24	-0.13
25	Artistic	...is knowledgeable about films	0.46	0.56
29	Artistic	...enjoys photography	0.29	0.17
31	Artistic	...is a dreamer	0.58	0.54
33	Artistic	...would love to write a book	0.61	0.67
35	Artistic	...has a creative job	0.81	0.77
37	Artistic	...is unspiritual	-0.40	-0.11
39	Artistic	...has no understanding of art	-0.31	-0.29

Table 2.9.

Factor loadings for the Athletic factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
2	Athletic	... watches live sport events regularly	0.35	0.05
4	Athletic	...always gets the best seats for sport events	0.56	0.05
6	Athletic	...is not interested in exercise	-0.71	-0.70
8	Athletic	...loves outdoor activities	0.43	0.55
41	Athletic	...keeps very fit	1.01	0.93
43	Athletic	...loves to go to the gym	1.06	1.32
45	Athletic	...has an unhealthy diet	-0.73	-0.48
49	Athletic	...is healthy	0.40	0.49
51	Athletic	...is sporty	0.72	0.64
53	Athletic	...eats unhealthy food	-0.30	-0.36
55	Athletic	...does not like playing sports	-0.59	-0.58
57	Athletic	...is physically active	0.39	0.74
59	Athletic	...is a regular sports competitor	0.87	0.73
61	Athletic	...enjoys being outdoors	0.22	0.31
63	Athletic	...smokes	-0.40	-0.56
65	Athletic	...is athletic	0.61	0.50
69	Athletic	...eats healthily	0.71	0.50
71	Athletic	...is overweight	-0.23	-0.31

Table 2.10.

Factor loadings for the Sociable factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
12	Sociable	...is talkative	0.293	0.29
42	Sociable	...has many friends	0.901	0.59
44	Sociable	...loves meeting new people	0.585	0.41
46	Sociable	...has no social life	-0.871	-0.32
48	Sociable	...makes friends easily	0.38	0.31
60	Gregarious	...has a big circle of friends	0.645	0.60
78	Gregarious	...is sociable	0.684	0.57
86	Successful	...is very driven	-0.218	-0.29
81	Sociable	...is popular	0.594	0.29
87	Sociable	...spends a lot of time alone	-0.381	-0.56

Table 2.11.

Factor loadings for the Caring factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
14	Friendly (inter.) ¹	...is easy-going	0.4	0.4
22	Caring	...is temperamental	-0.325	-0.26
24	Caring	...is not good at expressing feelings	-0.236	-0.17
56	Caring	...gets upset easily	-0.626	-0.29
64	Gregarious	...is predictable	0.496	0.47
73	Friendly (inter.)	...is friendly	0.42	0.40
77	Caring	...cares about others' feelings	0.667	0.69
83	Friendly (inter.)	...is easy-going	0.748	0.66
89	Friendly (inter.)	...is a peacemaker	0.274	0.48
91	Friendly (inter.)	...is modest	0.102	-0.13
93	Friendly (inter.)	...can be rude	-0.337	-0.29
95	Friendly (inter.)	...is selfish	-0.731	-0.44
97	Caring	...is expressive	0.517	0.37
107	Gregarious	...is impulsive	-0.565	-0.25
112	Caring	...empathises with others	1.006	0.89
115	Successful	...is competitive	-0.999	-0.29
120	Caring	...is affectionate	0.587	0.79

Note. ¹ Inter-personally friendly

Table 2.12.

Factor loadings for the Gregarious factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
10	Friendly (inter.) ¹	...is friendly and outgoing	-0.087	0.38
16	Friendly (inter.)	...loves being the centre of attention	0.696	0.75
28	Gregarious	...is always up for partying	1.491	1.05
30	Gregarious	...loves a drink or two	0.684	0.60
32	Gregarious	...makes "having fun" a priority	0.332	0.34
58	Gregarious	...enjoys going to bars and clubs	0.863	0.91
62	Gregarious	...enjoys parties	1.085	0.78
67	Athletic	...would never do drugs	-0.51	-0.15
99	Gregarious	...is fun-loving	0.089	0.09
103	Gregarious	...is "the life and soul of the party"	0.543	1.14
106	Friendly (inter.)	...is calm	-0.545	-0.91
109	Gregarious	...is "a party animal"	1.065	1.14
114	Gregarious	...is self-aware	-0.503	-0.59

Note. ¹ Inter-personally friendly

Table 2.13.

Factor loadings for the Successful factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
34	Successful	... would love to make lots of money	1.096	0.60
36	Successful	...has a successful career	1.241	0.99
66	Successful	...is career-minded	0.808	0.80
68	Successful	...earns lots of money	0.226	-0.07
70	Successful	...has good career prospects	1.047	0.97
72	Successful	...is unemployed	-0.265	-0.23
82	Successful	...is career-minded	0.646	0.81
84	Successful	...is powerful	0.751	0.76
86	Successful	...is very driven	0.575	0.75
90	Friendly (inter.) ¹	...is confident	0.229	0.16
98	Successful	...is rich	1.203	0.91
100	Successful	...is successful	0.826	1.34
102	Successful	...works long hours	0.183	0.87
104	Successful	...is well-educated	0.382	0.74
108	Successful	...is hard-working	0.48	0.47
113	Successful	...is rich	0.815	0.40
117	Successful	...spends too much time working	0.32	0.49
119	Successful	...knows how to influence people	0.36	0.28

Note. ¹ Inter-personally friendly

Table 2.14.

Factor loadings for the Image-conscious factor

Item #	Hypothesised factor	Item wording	Factor loading (IRT) - female	Factor loading (IRT) - male
13	Artistic	...keeps up with the latest fashion	1.00	1.00
26	Gregarious	...is cool	0.684	0.51
47	Athletic	...takes care of their appearance	0.688	0.45
74	Gregarious	...is stylish	1.662	0.89
80	Gregarious	...is unfashionable	-0.548	-0.57
105	Gregarious	...is trendy	0.629	1.36

Looking at the new Sociable domain, there was considerable overlap with the original Friendly (inter-personal) factor; although several of the original items did not map onto this new category. Specifically, original items related to interpersonal sensitivity² (as opposed to those describing simply enjoyment of social activities), along with a sub-group of items from the original Friendly (intrapersonal) factor³, clustered to form a new factor that related to interpersonal sensitivity, altruism and compassion: Caring.

While items relating to gregariousness and lack of inhibition featured in both the original Friendly (interpersonal)⁴ domain, as well as the now-defunct Gregarious domain⁵, the factor analysis identified that these formed a distinct factor – Outgoing – and that this was conceptually different from the Sociable factor, which also featured

² E.g., “is friendly”; “is easy-going”

³ E.g., “empathises with others”; “is affectionate”

⁴ E.g., “loves being the centre of attention”

⁵ E.g., “loves a drink or two”; “is ‘the life and soul’ of the party”

items previously classified as relating to Friendly (interpersonal)⁶; these two factors separate those who merely enjoy the company of others from the types who thrive on being the centre of the attention in group situations. Of final note is the new Image-conscious factor, which features items related primarily to visual appearance and being fashionable. These items were previously categorised within two of the original domains: Gregarious⁷ and Athletic⁸. Overall, results indicated that H1 is only partially supported. A summary of the revised factors and the associated characteristics is presented in Table 2.15.

⁶ E.g., “has a big circle of friends”; “loves meeting new people”

⁷ E.g., “keeps up with the latest fashion”; “is cool and trendy”

⁸ E.g., “takes care of their appearance”

Table 2.15.

Revised IPQ Factors

<i>New IPQ factor</i>	<i>Number of items</i>	<i>Factor characteristics</i>
Artistic	17	Creative, loves art, poetry/theatre/cinema etc.
Athletic	18	Fit and healthy, sporty, active, likes the outdoors
Sociable	10	Has many friends and rich social life, is popular and likes meeting new people
Caring	17	Empathic, altruistic, non-competitive and cares about others' feelings
Outgoing	13	Likes parties and going out, likes being the centre of attention and have fun, disinhibited
Successful	18	Career and success-driven, rich, powerful, hard-working
Image-conscious	7	Takes care of their appearance, looks good and follows trends in fashion

While scales Sociable and Outgoing were the most closely related, they formed two highly correlated but separate dimensions. The final model with seven correlated factors, where each item measured only one factor (independent clusters structure) yielded reasonable fit to the data (chi-square 2217 on df=1655; RMSEA=0.022). After the model parameters were estimated (as described in Brown

& Maydeu-Olivares, 2011), participants' scores were estimated using the maximum a posteriori (MAP) approach. It is worth noting that factor analysis took into account gender differences. Males fitted broadly with the scales Artistic, Athletic and Successful, but less well with Caring. For this reason, the final model was calibrated based on responses from females, and then used to score all responses. All further descriptive statistics, correlational and regression analyses are based on these estimated scores.

2.7.2. Descriptive statistics. Table 2.16 details the possible and observed ranges for each measure, mean scores (M) and standard deviations (SD) for all classically scored measures.

Table 2.16.

Descriptive Statistics for All Measures

Variable	Range	Observed range	M	SD
Extraversion	2-14	2-14	8.36	3.06
Agreeableness	2-14	2-14	9.93	2.28
Conscientiousness	2-14	3-14	10.01	2.63
Emotional Stability	2-14	2-14	7.01	2.74
Openness	2-14	4-14	11.06	2.08
Proportion preferring items from the scale			M	SD
IPQ Artistic			.47	.17
IPQ Athletic			.45	.22
IPQ Sociable			.51	.27
IPQ Caring			.69	.24
IPQ Outgoing			.33	.23
IPQ Successful			.50	.24
IPQ Image-conscious			.24	.16

Note: n=946 for all variables

For IPQ measures scored with Multidimensional Item Response Theory (MIRT), the scores are automatically scaled to have mean $M=0$ and standard deviation $SD=1$; therefore, these are not reported.⁹ Instead, we report proportions of participants preferring each of the domains over other domains (computed as average across proportion of participants preferring positively keyed characteristics from the domain over other domains, and rejecting the negatively keyed characteristics). The most sought-after partner characteristic by far was Caring ($M=.69$, $SD=.24$) and the least sought-after was Image-conscious ($M=.24$, $SD=.16$). The factor structure is explained in more detail later in this section.

2.7.3. Correlation analysis: Personality trait and IPQ variables. Firstly, the relationships between personality traits and ideal partner characteristics were tested. Table 2.17 shows two-tailed Pearson correlations for all pairs.

⁹ With thanks and acknowledgement due to Dr. Anna Brown, University of Kent, for statistical analysis and technical reporting support.

Table 2.17.

Bivariate Pearson Correlation Coefficients: Personality¹ and Revised IPQ Variables²

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. Extra.		.03	.05	-.12**	.23**	-.29**	-.01	.31**	-.19**	.29**	.03	.10**
2. Agree.		—	.08*	-.24**	.13**	-.03	-.10**	.01	.21**	-.04	-.07*	-.14**
3. Consc.			—	-.25**	-.07*	-.16**	.11**	-.03	.10**	-.08*	.13**	.00
4. Em. Stab.				—	-.09**	.05	-.05	-.05	.04	-.01	.05	-.05
5. Open.					—	.22**	-.07*	-.09**	-.15**	-.01	-.03	.06
6. Artistic						—	.04	-.48**	-.02	-.37**	-.25**	.13**
7. Athletic							—	.14**	-.16**	-.11**	.30**	.49**
8. Sociable								—	-.24**	.78**	.07*	.35**
9. Caring									—	-.39**	-.13**	-.52**
10. Outgoing										—	.04	.33**
11. Successful											—	.46**
12. Image-cons.												—

Note. ¹Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience; ²Artistic, Athletic, Sociable, Outgoing, Successful, Image-conscious. ** $p < .01$; * $p < .05$. ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$.

Of the 66 possible correlations between Big Five personality factors and the seven revised IPQ domains, 38 were correlations were significant at $p < 0.01$ (highlighted in bold). The smaller significance threshold was chosen because many of the correlations significant at $p < .05$ were small, owing to the large sample size. The Big Five factor Emotional Stability was the only variable that did not predict any ideal partner characteristics. Preference for Caring was predicted by all personality variables except Emotional Stability.

When studying the correlations for each IPQ domain in turn, it can be seen that respondents who had a higher preference for Artistic partners were likely to be

those scoring high on Openness and low on Conscientiousness. Extraverts were also less likely to prefer Artistic partners. Those with higher preference for Athletic partners were likely to be high on Conscientiousness but low on Agreeableness. A higher preference for Sociable partners indicated the respondents were more likely to be sociable themselves, as denoted by being high on Extraversion. They were less likely to be achievement-oriented or ambitious, as denoted by low Conscientiousness scores. Those with a preference for Outgoing partners were likely to be high on Extraversion.

Those expressing higher preference for Caring partners were likely to score highly on Agreeableness and Conscientiousness and low on Extraversion and Openness. People expressing a strong desire for Successful partners scored more highly on Conscientiousness. Finally, extraverted people were more likely to prefer Image-conscious partners. In summary, hypotheses H2a and H2e were supported; hypotheses H2c and H2d were partially supported; and hypothesis H2b was rejected.

2.7.4. Analysis of variance: Demographic factors, personality traits and IPQ variables. The relationships between demographic factors and ideal partner characteristics were tested. For gender (male vs. female) and relationship status (single vs. in a relationship), results are presented as standardised mean differences (d statistic), with significance tested using independent t-tests; this is shown in Table 2.18.

Table 2.18.

Relationships Between Demographic Factors and Revised IPQ Variables

	Correlation		Mean difference (<i>d</i>)	
	Age	Relationship length	Gender (female - male)	Relationship status (single - in relationship)
Artistic	.05	.04	-.48**	.06
Athletic	.04	.10*	-.41**	.08
Sociable	.00	.02	-.06	.08
Caring	.00	.04	.35**	-.13
Outgoing	-.08*	-.02	-.15	.12
Successful	-.10**	.03	.46**	.00
Image-conscious	.05	.01	-.55**	.22**

Note. *P* values refer to the significance of correlations for age (Pearson) and relationship length (Spearman); and they refer to significance of *t* tests for gender and relationship status. ***p* < .01 and * *p* < .05.

As shown, males have stronger preferences than females for partners with characteristics belonging to the Image-conscious factor ($d = -.55$, $p < .01$); H3a is therefore supported (with a medium effect size). In addition, men more than women prefer partners who are Artistic ($d = -.48$, $p < .01$) and Athletic ($d = -.41$, $p < .01$). Females have stronger preferences than males for characteristics embodied by the Caring ($d = .35$, $p < .01$) and Successful factors ($d = -.46$, $p < .01$), again, with small effect sizes; H3b was supported.

Single participants had stronger preference for Image-conscious partners than participants currently in relationships ($d = .22$, $p < .01$, i.e. a small effect). There was no statistically significant relationship found between relationship status and preference for Outgoing partners ($d = .12$, $p > .05$); H3c was therefore rejected.

For age (actual value) and relationship length (recorded as eight ordered categories ranging from “less than 1 months” to “30 years or longer”), Pearson’s or Spearman’s correlations were computed respectively. The results in Table 2.7 indicate that older participants are less interested in Outgoing and Successful partners, while those already in relationships express stronger preference for Athletic partners (all effects are small). There was no statistically significant relationship found between relationship length and preference for an Outgoing partners ($r = -.02$, $p > .05$); H3d was therefore rejected.

Mean differences for various sexuality groups (heterosexual, homosexual, bisexual) were assessed using a one-way ANOVA: the only significant differences were found for IPQ Artistic ($F(2,862) = 6.30$, $p = .002$) and Athletic ($F(2,862) = 3.68$, $p = .026$). Post-hoc Tukey’s tests revealed that only two groups differed in their preferences for an Artistic partner; specifically, bisexual participants had a stronger preference for Artistic partners than heterosexual participants (standardised mean difference was $d = 0.57$); hypothesis H3e was rejected.

2.7.5. Multiple regression: Demographic factors, personality traits and IPQ variables. Finally, seven forced-entry multiple regressions were performed to determine the extent to which the Big Five personality factors can predict expressed preference in each of the revised ideal partner domains, over and above demographic factors. Given that the analysis above showed that only gender was an important predictor of preferences, gender was entered into the regression as block one and the five personality factors as block two; results are shown in Table 2.19.

Table 2.19.

Multiple Regression Models for the IPQ Factors¹: Standardised Weights and R Square

		Art.	Ath.	Soc.	Car.	Out.	Suc.	Ima.
Model 1 (gender only)								
Beta weights	Gender	.20**	.17**	.03	-.15**	.07	-.19**	.23**
R2	Model 1	.03	.03	.00	.02	.00	.03	.05
Adj. R2		.03	.03	.00	.02	.00	.03	.05
Model 2 (gender² and personality³)								
Beta weights	Gender	.19**	.16**	.03	-.11**	.07*	-.20**	.21**
	Extra.	-.32**	-.01	.33**	-.16**	.30**	.01	.10**
	Agree.	-.01	-.07*	.02	.21**	-.02	-.10**	-.11**
	Consc.	-.11**	.13**	-.08*	.09**	-.10**	.14**	.02
	Emot.	.02	-.02	-.04	.06*	.00	.03	-.04
	Open.	.29**	-.05	-.17**	-.12**	-.08*	-.02	.05
R2	Model 2	.20	.05	.12	.11	.10	.07	.07
Adj. R2		.20	.05	.11	.11	.09	.06	.07

Note: ¹ IPQ factors: Artistic, Athletic, Sociable, Caring, Outgoing, Successful, Image-conscious. ²Female=1, Male=2. ³Personality factors: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience. ** $p < .01$, * $p < .05$.

Personality factors were significant predictors of ideal partner preference in respect of all IPQ factors, adding between 2% (Athletic and Image-conscious models) and 16% (Artistic model) of the variance over and above participants' gender (significant improvement for all models, $p < 0.01$). Table 2.8 also shows that gender and personality are largely independent predictors of ideal partner preferences; hypothesis H4 was supported.

2.8. Discussion

2.8.1. How can ideal partner preference be understood? This study aimed to pilot a forced-choice tool useful for identifying the values underlying the concept of an ideal partner, relating it to individual differences in personality. The results illustrate that the traits people look for in an ideal partner can be grouped into seven domains: Artistic, Athletic, Sociable, Caring, Outgoing, Successful, Image-conscious. This provides a unique contribution to existing literature in that it provides support for an extension of the current most prominent model of partner preference, the Ideal Standards Model.

Demographic variables were also found to play a role in determining the characteristics deemed ideal in a romantic partner, with gender being particularly important. That women place more importance on the Successful factor is aligned with well-established evolutionary theory in this regard. This is helpful for demonstrating the validity of the IPQ in terms of its ability to encompass evolutionary theory in its design. One might expect it to follow that men prioritise the Caring factor more than women; however, this was not the case. This finding provides both an interesting and novel contribution to existing study given that robust, established and extensive findings from evolutionary psychology indicate this is an anomaly. Taken together, these results show clearly the revised IPQ builds on previous literature and also warrants further study.

2.8.2. How does personality predict partner preference? Results also show that personality variables predict the qualities people seek in a partner. While many of these are unsurprising – extraverts prioritise sociability and gregariousness and agreeable people seek those who are high on interpersonal sensitivity, for example – there are some less obvious relationships worth highlighting. Firstly, preference for

an Image-conscious partner also correlated significantly with preference for a Successful partner. It may be that demonstrating status and an ability to ‘stay one step ahead’ in a very visual sense (i.e., by wearing only fashionable clothes) is a proxy for ambitious behaviour. Conscientiousness was also the most significant predictor of preference for Athletic, which could be explained in the same way (i.e. that athleticism is understood as a proxy for characteristics associated with conscientious behaviour such as goal-orientation and commitment). Predictably, these same characteristics also predicted preference for a Successful partner, as did low sociability and low agreeableness, suggesting that people who are driven, to the exclusion of others, seek the same in their mate. People seeking Successful partners also want Athletic partners, which would support this explanation. These findings provide a more nuanced understanding of how individual preferences are conceptualised, adding both to current preference frameworks and to previous research on correlates of personality.

2.8.3. Implications for our understanding of romantic partner selection.

While there are shared standards of beauty, it is well-established that people perceive other aspects of attractiveness differently; indeed, this was supported by the findings of this research. Research has shown, however, that many people are unable to define exactly what it is that renders another person attractive or unattractive as a potential mate. The factors identified herein begin to tackle this problem in a new way; specifically, they provide a framework for describing how trade-offs are made when a person decides who, for him/her, would constitute an ‘ideal’ romantic partner. Furthermore, the evident correlations between these ideal partner characteristics and personality traits offer a novel way of enabling people to better understand and articulate what they want and need from a partner.

2.8.4. Limitations and recommendations for further study. It would be desirable to re-assess the refined IPQ and test it with different populations. An obvious limitation of this study is the sampling bias towards female participants, single people and heterosexual respondents; future studies could address these limitations. It would also be useful to test how IPQ domains correlate to perceived eligibility and relationship outcomes. Given the growth of the dating industry, it will also be useful to test the IPQ within different partner selection contexts, while also exploring users' expectations of partner selection at the relationship initiation stage. This will help us to gain a better understanding of exactly how success is defined.

2.9. Conclusions

In the first study in this chapter, a novel scale – the IPQ – was developed to assess ideal partner preference. Correlations between demographic factors, eligibility, personality variables and preference were consistent with established theory, thus supporting positive assortment. However, correlations were fewer and weaker than expected; very little variance in preference was explained by personality. These findings indicated that individual differences in preference are negligible, which contradicts previous research.

Analysis recognised that the tool was limited by its Likert design which did not permit meaningful differentiation of the trade-offs made during partner selection. To tackle this, in the second study, the IPQ tool was revised into a forced-choice structure, requiring respondents to be explicit about relative preference. Factor analysis resulted in the hypothesised six factors being revised into seven domains which were then used for analysis. Study 2 results provided stronger support for the similarity hypothesis of partner preference, replicating previous research in respect of established gender and trait differences. The next chapters will test these further -

with a larger sample - to validate the findings. The IPQ's relationship with a wider range of individual difference variables will also be explored to strengthen the hypothesis that this tool adds to, rather than replicates, existing measures.

Results of these studies offer support for a novel preference framework underpinned by seven distinct latent factors which encompass demographic, functional, personality and evolutionary determinants of partner choice. These factors are new to the literature and offer potential to articulate in a more nuanced way how people assess, and trade-off, the characteristics of others.

CHAPTER 3: *The Relationship Between Stated
Preference, Self-Rated Eligibility and Personality*

STUDY 3

3.1. Introduction

3.1.1. The need for a refined forced-choice ideal partner tool. Partner selection is now a major industry (for review, see: Chapter 1, section 1.3). The romantic notion of dyadic permanence is deeply embedded Western cultural norm and ever-increasing numbers of commercial platforms offer routes to selection of the ‘ideal’ partner. Accordingly, there has never been more pressure for individuals to understand what they seek in an romantic partner, and to be able to articulate that clearly and succinctly. Studies 1 and 2 both supported the similarity-attraction theory in romantic partner selection, as well as accepted evidence on the importance gender, socioeconomic status, religious and political persuasion in this context. Consistent with evidence that people take into account a wide range of factors when considering a potential mate (see: Chapter 2), both studies found that very little variance in expressed ideal partner characteristics could be explained by personality and demographic factors.

The complex relationship between traits, values and behaviours – and their impact on relationship outcomes - indicates a need for a more sophisticated measure of individual differences in ideal partner qualities than is typically available (Finkel et al., 2012; J. H. Frost et al., 2008). Such a tool would include, but not be limited to, personality factors. The novel Ideal Partner Questionnaire (IPQ) tool piloted and refined in Chapter 2 responds to this, as well as to the recognised difficulty people experience when articulating what they want in a partner (Eastwick & Finkel, 2008; Eastwick, Finkel, et al., 2011). People using online dating platforms, in particular, are goal-oriented; they benefit from the potential for partner selection efficiency these

vehicles provide (Schmitz, 2014; Schmitz & Zillmann, 2016). As the processes that underpin partner selection are similar online to offline (Illouz, 2009), there is value in developing a measure that helps to improve efficiency across platforms, by more quickly and accurately defining matching success; Study 2 (see: Chapter 2) indicated the IPQ's potential in this regard.

The forced-choice nature of the IPQ tool also allowed initial exploration of the trade-offs made during partner selection, thus finding evidence for seven distinct domains that cover a wide range of personality, attitudinal, relational and behavioural characteristics. Results indicated a need to test and refine these domains further – in particular, to remove items with a low factor loading and simplify language – and with different populations.

3.1.2. Personality and eligibility as predictors of ideal partner

characteristics. While personality is only one component of ideal partner preference, it is an important element (see: Chapter 1, section 1.2.2.). Research using a refined IPQ tool should, therefore, seek to replicate and build on the findings from the previous chapter, which indicated a link between conceptually-related traits and ideal partner domains. Some of these relationships were less obvious than others; for example: the relationship between preference for a Successful partner and preference for both an Image-conscious and an Athletic partner. In terms of desirable Five Factor Model personality traits (high Openness, Agreeableness, Conscientiousness and Extraversion; as well as high Emotional Stability), recent research found heterosexual women to be the most demanding, followed by non-heterosexual women, then non-heterosexual men, then hetero men (Valentova et al., 2016).

It is also important to understand the relationship between self-rated eligibility and ideal partner qualities, as measured by the new tool; this would build on evidence

about the importance of mate value in partner selection and further test the theory that people who are more desirable are more demanding when choosing a mate (Fales et al., 2016). Chapter 2 found self-rated eligibility to be a good predictor of ideal partner qualities, but identified a need to study this further.

3.1.3. Impact of gender differences on ideal partner preference.

3.1.3.1. Essential and non-essential characteristics. A wealth of literature indicates that gender is associated with individual differences in partner choice, specifically, that it determines the characteristics seen positively and negatively in others (for review, see: Chapter 1, section 1.2.2.2.2). Consistent with this research, Chapter 2 found gender to be a particularly important demographic correlate of ideal partner characteristics. However, results warranted further investigation. It was hypothesised, for example, that men place more value on a Caring partner than women do, consistent with evolutionary theory - but this was not the case. A growing body of evidence illustrates the complex relationship between gender and ideal partner preference; for example, people distinguish between essential characteristics and those which are non-essential but desirable and these trade-offs are predicted by gender (Li et al., 2002). While kindness and intelligence have been shown to be necessities for both men and women (D. M. Buss, 1989), attractiveness and athleticism is essential to men only (Gouveia et al., 2005; Li et al., 2002), and status and social desirability is important only to women (Dijkstra & Barelds, 2007; Li et al., 2002; Valentova et al., 2016). Within these categories, life circumstances also play a role: for example, a review of evolutionary theory literature indicates that single mothers place particular importance on partners who are caring and financially stable (P. B. Gray, Franco, Garcia, Gesselman, & Fisher, 2016). Further anomalies are discussed in Chapter 1, section 1.2.2.2.2.

3.1.3.2. Individual differences in resources and status. Chapter 2 found that women place more importance than men on Successful partners, but that there is a need to understand this IPQ factor in more detail. Looking at actual income as a proxy for financial and socio-economic status would build on recent findings: that earning potential is important to both men and women (Eastwick, Luchies, Finkel, & Hunt, 2014), that women of all ages want men with a high income and that more educated women want higher income men (Ong & Wang, 2015). Socio-economic status generally has been found to be more important for women than for men (Abramova et al., 2016).

Education has been shown to be an equally important demographic variable, with more highly educated people seeking those that are also more educated (Hitsch et al., 2005; Whyte & Torgler, 2017); and education overall being more important to women than to men (Ong, 2015), particularly when defining an ideal partner in the abstract (L. E. Park, Young, & Eastwick, 2015).

3.1.4. Individual differences in religious, ethnic and political status.

Religious compatibility relates to beliefs and values (Furnham, 2009) Religion has been found to determine both partner choice and mode of partner selection (see: Chapter 1, section 1.3.1.1.) yet the results in Chapter 2 do not support the hypothesis that religiosity explains variance in ideal partner preference. The only significant correlation found was between religiosity and preference for Successful. There is evidence to suggest that someone's religious affiliation, rather than their level of religiosity per se, is particularly important in a partner: Braithwaite et al., (2015) found that only people identifying as nondenominational Protestant sought homogamy in religious status, and that people who do not belong to a religious group sought racial not religious heterogamy. This suggests that, rather than asking people

to provide self-rated religiosity using a scale (as per Studies 1 and 2), it may be more useful to test categorical assessment of religious affiliation as a predictor of ideal partner preference.

Ethnicity is an important factor in the context of partner selection (Desmond-Harris, 2010; Hwang, 2013; K.-H. Lin & Lundquist, 2013; Paul, Ayala, & Choi, 2010; Potârceă & Mills, 2015; Tsunokai, McGrath, & Kavanagh, 2014), as is political status (Huber & Malhotra, 2017; Klofstad et al., 2012; Klofstad, McDermott, & Hatemi, 2013). There is evidence that, in the context of romantic partner selection, ethnicity and political persuasion are correlated, such that Conservatives (more than Liberals) are both particularly demanding in terms of the ethnicity of their partner; they are also more likely to seek same-ethnicity partners (A. Anderson, Goel, Huber, Malhotra, & Watts, 2014). The authors found that this expressed preference in the abstract predicted actual behaviour.

3.1.5. Rationale for the present study. In conclusion, the relationship between traits, values and behaviours is complex. Current literature indicates the potential usefulness of a tool that can add to scientific understanding of these variables in relation to partner preference. The IPQ, developed in Chapter 2, offers a solution in this regard. Specifically, it offers a novel way for people to self-rate their preference in an ideal partner, by choosing their preferred characteristic from multiple pairs of possible characteristics, across seven domains. It uses everyday language to describe behavioural manifestations of latent traits, values and preferences. This chapter seeks to refine and validate the IPQ measure and test its relationship with both personality and demographics. In doing so, the study will strengthen the IPQ's unique and novel contribution to the literature by providing confirmation of latent factor structure and a deeper understanding of the relationship between these factors

and Big Five personality traits, eligibility and demographics – all known to be determinants of partner choice.

3.1.6. Hypotheses.

- H1. The refined forced-choice tool will enable good differentiation of ideal partner characteristics, identifying at least seven factors that correspond to the seven conceptual domains for which IPQ behavioural descriptions have now been written.
- H2. Consistent with the theory that people prefer romantic partners like themselves, there will be significant correlations between participants' own personality profile and conceptually-related ideal romantic partner characteristics, as tested by the refined IPQ measure; specifically:
- H2a Extraversion will correlate to a preference for a Sociable and Image-conscious partner;
- H2b Emotional Stability will correlate to a preference for a Balanced and Caring partner;
- H2c Openness will correlate to a preference for an Artistic, Sociable and Balanced partner;
- H2d Agreeableness will correlate to a preference for a Sociable and Caring partner;
- H2e Conscientiousness will correlate to a preference for a Successful and Caring partner.
- H3. An ideal partner profile, as tested by the refined IPQ, will be partially explained by personality after controlling for demographic factors (on the basis that the IPQ

offers a more comprehensive account of partner preference, than personality alone).

H4. Participants' subjectively-rated eligibility and length of longest relationship will be correlated and, in addition:

H4a Both eligibility and relationship length will be positively related to Agreeableness, Conscientiousness and Emotional Stability;

H4b Relationship length will be positively related to preference for a Caring, Balanced partner and negatively related to preference for an Image-conscious, Sociable and Successful partner.

H5. Gender will correlate to ideal partner preferences, specifically:

H5a Both women and men will place significance on a Successful and Caring partner and, therefore, there will be no significant difference in preference for these IPQ traits by gender;

H5b Finding an Athletic partner will be more important to men than women;

H5c Women more than men will want a Sociable and Image-conscious partner;

H5e Finding a Caring partner will be most important to heterosexual women with children than any other group;

H5f Heterosexual women will be the most demanding in terms of desirable personality traits (Openness, Agreeableness, Conscientiousness, Extraversion) followed by non-heterosexual women, then non-heterosexual men.

H6. There will be a relationship between the subject's income, gender and education status, as well as the stated income and education status of their ideal partner, such that:

H6a Everyone wants a partner who is equal to them, or higher than them, in these domains;

H6b The effects of H6a will decrease with age;

H6c Women more than men will want a partner who is equal to, or higher than them in these domains.

H7. There will be no relationship between the subject's religious status and the religious status of their ideal partner.

3.2. Method

3.2.1. Participants and procedure. A total of 2,869 participants provided data, ranging in age from 18 to 76 years old (mean age = 27.3 years; SD = 8.3 years). Approximately three-fifths were women (female: $n=1776=61.9\%$; male: $n=1093=38.1\%$) and the majority were heterosexual ($n=2614=91.1\%$) and white ($n=2431=84.7\%$). The study sample was drawn from the pool of short-listed applicants to a reality TV show. Participants completed the set of inventories online, so that if selected for the show they could be matched with their ideal partner.

3.2.2. Measures.

Demographic data was obtained for all participants. In addition to providing details of their age, gender and sexuality, participants gave details of their education, income, ethnicity, religious and political affiliation. They were also asked if they had children and to provide the length of their longest relationship. They were asked to identify their ideal partner's education, income, ethnicity, religious and political affiliation and parental status.

Subjectively-rated eligibility was measured by asking participants to score themselves using a Likert scale ranging from 1 ('not very eligible') to 7 ('very

eligible’). This approach was taken based on the usefulness and validity of a comparable Likert-scale rating for objectively assessing eligibility in this thesis (see: Chapter 1) and a comparable measure having been adopted, and demonstrated to be valid, in previous research on eligibility (L. Lee et al., 2008).

The **Ten-Item Personality Inventory** (TIPI; Gosling, Rentfrow, & Swann, 2003) was used to measure Big Five personality traits, as per Chapter 2.

The **Ideal Partner Questionnaire (IPQ)** was used to identify participants’ preferred characteristics in a romantic partner. As with the previous version of the inventory, this tested both traits and attitudinal values, using a multi-dimensional forced-choice format where participants were asked to identify the preferred characteristic from each of 84 pairs, across seven domains (*Artistic, Athletic, Caring, Balanced, Sociable, Image-conscious, Successful*).

The IPQ inventory was revised informed by the results presented in Chapter 2 (Study 2). Looking at each factor in turn, we see that the Artistic factor identified in Study 2 largely retained its intended meaning; therefore, with the exception of items removed from this domain because they did not load onto any factor (see: Chapter 2, section 2.7.1), the original items were retained. These included items related to behavioural manifestations of both preference, e.g. “...goes to theatre regularly” and values, e.g. “...is unconventional and eccentric”. The same applied to the Successful factor: one item originally assigned to this domain did not load onto any domain and was removed and the remaining original items, which mapped strongly onto this factor, retained. These included, for example, “...earns lots of money” and “...is powerful”. Looking at the Athletic factor, none of the original items were removed completely (although, as presented in Study 2 results, some were reallocated). Most items loaded onto the Athletic domain as intended and therefore these items were

retained in this refined version of the IPQ. Again, they encompassed behavioural manifestations of both preferences and values, e.g. “...is healthy” and “... watches live sport events regularly”.

Study 2 found the two factors Outgoing and Sociable to be highly correlated ($r=.61$, $p<.01$) indicating that, in a refined version of the inventory, items within these factors would load onto one factor. Therefore, these two factors were collapsed and shortened by retaining only the items with the strongest factor loading from each. These included, for example, “...is ‘the life and soul of the party’” and “...has a big circle of friends”. Study 2 results also indicated that Caring was a distinct factor. This factor comprised predominantly items that illustrated preference for behaviour that was caring towards others, for example, “...cares about others feelings” and “...empathises towards others”. It also contained items indicating emotional stability (for example, “...is easy-going” and “...is expressive”) but these were few in number. The Caring factor was therefore split into two domains: Caring and Balanced, with new items added to the Balanced domain intended to unambiguously represent sensitivity in managing interpersonal relationships and emotional balance (for example, “...is calm under pressure” and “...rarely loses his/her temper”). This was thought to be a particularly important distinction to make given the wealth of evidence on the importance of these qualities for relationship success, happiness and wellbeing (see discussion in Chapter 1, section 1.2.2.1 and Botwin et al., 1997; Braithwaite, Mitchell, Selby, & Fincham, 2016; Dyrenforth et al., 2010; Schutte et al., 2001).

Finally, Study 2 found Image-consciousness to be a distinct domain. Items mapping strongly to this factor had originally belonged to hypothesised factors Artistic (“...keeps up with the latest fashion”), Athletic (“...takes care of their

appearance”) and Gregarious (e.g. “...is trendy”). These were retained, and additional items drafted to represent characteristics associated with this domain (e.g. “...prioritises looking good” and “...stands out in a crowd”).

Some minor rewording of items was undertaken to ensure language used throughout was as simple and unambiguous as possible, for example, “...is artistically inclined” became “...likes art” and “...knows how to influence people” became “...is influential”. In addition, the efficiency of the forced-choice design was improved by including only positive/positive and positive/negative pairs, which retains the value of having both item types in a scale (DeVellis, Robert, 1991) but limits the processing difficulties caused by negative items (DiStefano & Motl, 2006; Melnick & Gable, 1990; Sliter & Zickar, 2014).

3.3. Results

3.3.1 Descriptive statistics. Table 3.1 shows participants’ sexuality and ethnicity, by gender. Approximately half of the sample comprised white, heterosexual females (n=1428=49.8%).

Table 3.1.

Sexuality and Ethnicity, by Gender

Variable	N			Percent		
	Male	Female	Total	Male	Female	Total
Heterosexual	939	1675	2614	87.3	95.8	92.6
Homosexual	127	47	174	11.8	2.7	6.2
Bisexual	10	26	36	.9	1.5	1.3
White	939	1513	2452	86.5	85.8	86.1
Mixed/multiple ethnicity	53	106	159	4.9	6.0	5.6
Asian	38	45	83	3.5	2.6	2.9
Black/African/Caribbean	48	88	136	4.4	5.0	4.8
Other	7	12	19	.6	.7	.7

Table 3.2 and 3.3 show education and income, by gender. The median yearly pre-tax income was ‘between £15,000 and £30,000’. The median level of qualification achieved was ‘further education’.

Table 3.2.

Education, by Gender

Level of qualification	N			Percent		
	Male	Female	Total	Male	Female	Total
No formal qualifications	10	11	21	.9	.6	.7
Secondary school	119	181	300	10.9	10.2	10.5
Further education	450	678	1128	41.2	38.2	39.3
University (undergraduate)	360	622	982	32.9	35.0	34.2
University (postgraduate)	154	284	438	14.1	16.0	15.3
Total	1093	1776	2869	100	100	100

Table 3.3.

Yearly Pre-Tax Income, by Gender

Income bracket	N			Percent		
	<i>Male</i>	<i>Female</i>	Total	<i>Male</i>	<i>Female</i>	Total
Less than 5K	187	300	487	17.1	16.9	17.0
Between 5K and 15K	227	423	650	20.8	23.8	22.7
Between 15K and 30K	440	676	1116	40.3	38.1	38.9
Between 30K and 45K	146	253	399	13.4	14.2	13.9
Between 45K and 60K	47	72	119	4.3	4.1	4.1
Between 60K and 75K	20	29	49	1.8	1.6	1.7
Between 75K and 90K	8	12	20	.7	.7	.7
Over 90K	18	11	29	1.8	.6	.9
Total	1093	1776	2869	100	100	100

Table 3.4 shows political affiliation, by gender; a Chi-squared test of independence found a statistically significant interaction between these variables, $\chi^2(3, N=2869) = 22.56, p < .001$. Approximately two-fifths of women (39.5%) and one-fifth of men (21.5%) were not interested in politics. The second most frequently occurring political affiliation, for both men and women, was “liberal or centrist” (9.4% female; 7.9% male).

Table 3.4.

Political Affiliation, by Gender

Political affiliation	N			Percent		
	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Not interested	610	1133	1743	55.8	63.8	60.7
Left	130	208	338	11.9	11.7	11.8
Liberal/ centrist	227	270	497	20.8	15.2	17.3
Right	126	165	291	11.5	9.3	10.1
Total	1093	1776	2869	100	100	100

Table 3.5 show religious affiliation, by gender; a Chi-squared test of independence found a statistically significant interaction between these variables, $\chi^2(8, N=2869) = 51.60$ $p < .001$. Approximately one-quarter of women (24.1%) had no religious affiliation, compared to 15.1% of men.

Table 3.5.

Religious Affiliation, by Gender

Religious affiliation	N			Percent		
	<i>Male</i>	<i>Female</i>	Total	<i>Male</i>	<i>Female</i>	Total
None	446	691	1137	40.8	38.9	39.6
Atheist	154	146	300	14.1	8.2	10.5
Buddhist	8	8	16	.7	.5	<.1
Christian	265	530	795	24.2	29.8	27.7
Jewish	11	16	27	1.0	.9	<.1
Hindu	18	13	31	1.6	.7	<.1
Sikh	1	5	6	.1	.3	<.1
Muslim	15	8	23	1.4	.5	<.1
Spiritual not religious	175	359	534	16	20.2	18.6
Total	1093	1776	2869	100	100	100

Table 3.6 shows the possible and observed ranges, mean scores (M) and standard deviations for all ideal partner characteristics, Big Five personality traits and eligibility rating.

Table 3.6.

Descriptive Statistics: Ideal Partner Characteristics, Personality and Eligibility

Variable	N	Range	Observed	M	SD
Extraversion	2781	1-7	1-7	5.41	1.24
Agreeableness	2781	1-7	1.5-7	5.36	1.06
Conscientiousness	2781	1-7	1-7	5.31	1.21
Emotional stability	2781	1-7	1-7	5.04	1.26
Openness	2781	1-7	1.5-7	5.79	.94
Eligibility	2722	1-7	1-7	5.86	1.04
Proportion preferring				M	SD
Artistic				.43	.15
Athletic				.38	.13
Caring				.66	.14
Balanced				.54	.12
Sociable				.52	.16
Image-conscious				.52	.21
Successful				.53	.17

Using a 7-point Likert scale, where 1 indicates “not very eligible” and 7 indicates “very eligible”, the mean rating was 5.86 (SD 1.04). The median relationship length was “1-3 years”. The most sought-after partner characteristic was the IPQ factor Caring (M=.66, SD = .14) and the least desirable IPQ dimension was Athletic (M=.38 SD = .13). There follows a more detailed explanation of the factor structure.

Table 3.7 shows length of longest relationship. Most people had been in a relationship lasting between one and three years.

Table 3.7.

Length of Longest Relationship

Time	N			Percent		
	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Less than 1 month	56	28	84	5.3	1.6	3
1-6 months	162	162	324	15.2	9.4	11.6
7-11 months	122	150	272	11.5	8.7	9.8
1-3 years	483	764	1247	45.4	44.4	44.8
4-9 years	176	450	626	16.6	26.2	22.5
10-19 years	18	118	136	1.7	6.9	4.9
20 years or longer	5	26	31	.5	1.5	1.1
Not applicable	41	22	63	3.9	1.3	2.3
Total	1063	1720	2783	100	100	100

3.3.2. Refinement of the IPQ scales and scoring protocol. Consistent with the methodology described in Chapter 2, the Thurstonian IRT modelling approach was used to conduct item factor analysis on the obtained forced-choice data, and to refine the scales;¹⁰ the results are summarised in Table 3.8.

¹⁰ With thanks and acknowledgement due to Dr. Anna Brown, University of Kent for statistical analysis.

Table 3.8.

IPQ Factors and Item Assignment

<i>New IPQ factor</i>	<i>Number of non-significant items in original factor</i>	<i>Number of items reassigned to this factor</i>	<i>Total number of items in revised factor</i>	<i>Factor characteristics</i>
Artistic	2	1	23	Creative; unconventional; imaginative; likes art, theatre, music etc.
Caring	2	1	23	Empathic, altruistic, non-competitive; cares about others' feelings
Balanced	3	0	21	Rational; calm; level-headed; can manage stress
Sociable	3	2	23	Outgoing; comfortable in groups; disinhibited; many friends; like parties
Athletic	0	0	24	Fit and healthy; sporty; active; likes the outdoors
Image-conscious	0	1	25	Takes care of their appearance; looks good; follows trends in fashion
Successful	0	0	24	Career and success-driven; rich; powerful; hard-working

Most of the items (n=163) mapped to the revised IPQ domains as expected and, therefore, H1 was supported. Only five items did not correlate significantly to their intended domains at the $p < .01$ level. The first of these – “eats organic food” - mapped onto the Artistic category rather than the Athletic factor, indicating that this

item is not interpreted as relating to a healthy lifestyle. The items “is friendly” and “gets on well with most people” mapped onto the Sociable domain rather than the Caring domain. The negative item “is careless about own health” mapped onto the Caring domain rather than the Athletic domain. Finally, the item “takes care of their appearance” mapped onto the Image-conscious domain, rather than the Athletic domain. After reassigning these items, the final model - with seven correlated factors, where each item measured only one factor (independent clusters structure) - yielded a reasonable fit to the data (chi-square 8641 on df=3297; RMSEA=.02). Table 3.9 shows the latent factor correlation matrix.

Table 3.9.

IPQ Factor Latent Correlations

IPQ factor	Caring	Balanced	Sociable	Athletic	Image-conscious	Successful
Artistic	-.07	-.15	0.36	-.22	-.22	-.18
Caring		.75	-.09	.02	-.31	-.16
Balanced			-.29	.10	-.20	-.01
Sociable				.22	.53	.14
Athletic					.23	.33
Image-conscious						.30

The strongest correlation was between Caring and Balanced ($r=.75$). The next strongest is between Sociable and Image-conscious ($r=.53$). The model parameters were, again, estimated as described in Brown & Maydeu-Olivares (2011), and participants’ scores estimated using the maximum a posteriori (MAP) approach. All

further correlational and regression analyses are based on these estimated scores.

3.3.3. Correlation analysis: Personality predictors of ideal partner

preference. Firstly, the relationship between Big Five traits and IPQ variables were tested¹¹; Table 3.8 shows two-tailed Pearson correlations for all pairs.

Table 3.10

Bivariate Pearson Correlation Coefficients: Personality¹ and Revised IPQ Variables

Measure	Extra.	Agree	Consc.	Emot.	Open.
Artistic	-.17**	.03	-.06**	-.09**	.21**
Caring	-.09**	.29**	.11**	-.00	-.16**
Balanced	-.15**	.24**	.22**	.06**	-.19**
Sociable	.31**	-.12**	-.14**	.06**	.02
Athletic	.14**	-.04	.14**	.09**	-.02
Image-conscious	.14**	-.16**	-.02	.09**	.04*
Successful	.14**	-.12**	.13**	.03	.01

Note. ¹Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience; ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.

Of the 35 possible correlations, 26 were significant at $p < .01$; however, all were small except for the relationship between the IPQ trait Sociable and the Big Five trait Extraversion. Overall, H2 was weakly supported. Looking at each personality variable in turn, we see first that extraversion correlated positively to preference for a

¹¹ With thanks and acknowledgement due to John Rogers (Co-founder, Delosis Ltd. and University College London PhD candidate) for support with statistical analysis for this Chapter.

Sociable and Image-conscious partner; H2a was supported. In addition, Extraversion correlated positively to the IPQ factors Athletic and Successful. Emotional Stability correlated positively to the IPQ factor Balanced, but not to Caring; H2b was partially supported. Emotional Stability correlated negatively to preference for an Artistic partner and positively to preference for characteristics encompassed by Image-conscious, Athletic and Successful factors.

Openness correlated positively to preference for an Artistic partner and negatively to preference for a Caring and Balanced partner. There was no significant correlation to preference for a Sociable partner; H2c was, therefore, only partially supported. Agreeableness did correlate positively, as expected, to preference for a Caring partner, but correlated negatively to preference for a Sociable partner; H2d, therefore, was only partially supported. In addition, Agreeableness correlated positively to the Balanced factor, but negatively to a preference for Image-Conscious and Successful. Finally, Conscientiousness correlated to preference for a Successful and Caring partner meaning H2e was supported. This trait also correlated negatively to preference for an Artistic and Sociable partner and positively to preference for a Balanced partner.

3.3.4. Multiple regression: Demographic factors, personality traits and IPQ variables. Seven forced-entry multiple regressions were performed to determine the extent to which Big Five personality factors explain expressed preference in each of the revised ideal partner domains, over and above demographic factors. Results are shown in Tables 3.11 and 3.12.

Table 3.11.

Multiple Regression Model for IPQ Factors¹ and Demographics (Model 1):

Standardised Weights and R Square

IPQ		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 1 (demographics)								
Beta	Age	.18**	.21**	.22**	-.28**	-.12**	-.25**	-.18**
	Gender	-.18**	.17**	.14**	-.03	.07**	-.28**	.31**
	Sexuality	.08**	.01	-.01	-.05**	-.10**	-.05**	.02
	Education	.02**	.02	-.04	-.04*	.06**	-.09**	-.01
	Income	-.14**	-.04*	.00	.07**	.14**	.10**	.18**
	Politics	.16**	-.02	-.02	-.10**	-.03	-.12**	.03
	Ethnicity	.03	-.06**	.05**	-.16**	-.02	.02	.13**
	Religion	.18**	-.03	-.06**	-.12**	-.09**	-.08**	-.03
R2		.16	.08	.07	.15	.05	.19	.13
Adj. R2		.16	.07	.07	.15	.05	.19	.13

Notes: ¹ Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful;

** $p < .01$, * $p < .05$.

Table 3.12.

Multiple Regression for IPQ Factors, Demographics and Personality Variables
 (Model 2): Standardised Weights and R Square

IPQ		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 2 (demographics and personality²)								
Beta	Age	.18**	.14**	.14**	-.22**	-.11**	-.21**	-.15**
	Gender	-.17**	.14**	.13**	-.04*	.07**	-.28**	.32**
	Sexuality	.06**	.48	.00	-.05**	-.09**	-.04**	.03
	Educ.	.10**	.01	-.04*	-.03	.06**	-.08**	.00
	Income	-.09**	-.05*	-.01	.04*	.10**	.08**	.15**
	Politics	.17**	-.00	-.02	-.10**	-.03	-.13**	.02
	Ethnicity	.03	-.05**	.05**	-.15**	-.03	.01	.12**
	Religion	.14**	-.03	-.04*	-.11**	-.08**	-.07**	-.01
	Extra.	-.19**	-.03	-.09**	.29**	.12**	.13**	.09**
	Agree.	.01	.27**	.20**	-.07**	-.05**	-.11**	-.17**
	Consc.	-.06**	.07**	.17**	-.10**	.13	.01	.13**
	Emot.	-.10**	.06**	.00	.07**	.06**	.05**	.06**
	Open.	.27**	-.18**	-.19**	-.06**	-.04*	.01	-.01
R2		.25	.18	.19	.24	.08	.22	.18
Adj. R2		.25	.17	.19	.24	.08	.22	.18

Notes: ** $p < .01$, * $p < .05$. ¹Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ²Personality factors: Extraversion, Agreeableness, Conscientiousness, Openness, Emotional Stability.

Personality factors were significant predictors of ideal partner preference in respect of all IPQ factors, adding between 3% (Athletic and Image-conscious models) and 12% (Balanced model) of the variance over and above participants' demographic

factors (significant improvement for all models, $p < 0.01$). Demographic and personality factors together only partially explain variance in partner preference, as measured by the IPQ; figures range from 8% (for the Athletic model) to 25% (for the Artistic model). Scatterplots and tests for collinearity indicated that assumptions of homogeneity of variance and linearity were met for all models, and all residuals approximated a normal distribution. Therefore, H3 was supported.

3.3.5. Correlation analysis: Eligibility, relationship length, personality and ideal partner preference. Two-tailed Spearman correlations were undertaken to assess the relationship between subjectively-rated eligibility, length of longest relationship and personality factors; results are shown in Table 3.11. Those with the longest relationships rate themselves as more eligible ($Rho=.13$, $p<.01$). Self-rated eligibility was positively correlated to all Big Five personality variables (all at $p<.01$). Relationship length was positively correlated to Agreeableness ($Rho=.11$, $p<.01$), Conscientiousness ($Rho=.10$, $p<.01$) and Emotional Stability ($Rho=.05$, $p<.05$); H4a was supported.

Table 3.13.

Relationships Between Eligibility, Relationship Length and Personality

	Eligibility	Relationship length
Eligibility	-	.13**
Relationship length	.13**	-
Extraversion	.19**	-.01
Agreeableness	.18**	.11**
Conscientiousness	.23**	.10**
Emot. Stability ¹	.20**	.05*
Openness	.21**	-.03

Note: ¹ Emotional Stability; ** $p < .01$ and * $p < .05$

Table 3.14 shows two-tailed Spearman correlations between subjectively-rated eligibility, length of longest relationship and IPQ factors. Self-rated eligibility was positively correlated to preference for Athletic ($Rho = .14$, $p < .01$), Image-conscious ($Rho = .12$, $p < .01$) and Successful ($Rho = .16$, $p < .01$) partners; it is negatively correlated to preference for an Artistic partner ($Rho = -.04$, $p < .05$). People in longer relationships are those more likely to seek Caring ($Rho = .12$, $p < .01$), Balanced ($Rho = .16$, $p < .01$) partners, while those with experience of shorter relationships preferred Sociable ($Rho = -.15$, $p < .01$), Image-conscious ($Rho = -.14$, $p < .01$) partners; H4b was partially supported.

Table 3.14.

Relationships Between Eligibility, Relationship Length and IPQ Factors

	Eligibility	Relationship length
Artistic	-.04*	.01
Caring	-.02	.12**
Balanced	.03	.16**
Sociable	.01	-.15**
Athletic	.14**	-.01
Image-conscious	.12**	-.14**
Successful	.16**	.03

Note: ** $p < .01$ and * $p < .05$

3.3.6. Analysis of variance: Ideal partner preferences by gender, sexuality and parental status. One-way, between-subjects ANOVA was used to test ideal partner preferences of men compared to women. The IPQ factors means are presented in Table 3.15.

Table 3.15.

IPQ Scale Factor Means, by Gender

IPQ domain	<i>n</i>	Male (M)	Female (F)	M:F comparisons ¹
Artistic	2869	.20	-.07	M >> F
Caring	2869	-.23	.06	M << F
Balanced	2869	-.21	.05	M << F
Sociable	2869	.06	-.03	M >> F
Athletic	2869	-.05	.04	M << F
Image-conscious	2869	.36	-.19	M >> F
Successful	2869	-.29	.19	M << F

Note: ¹Correlations compared using ANOVA (greater than at the $p < .01$ level (>>); $p < .05$ level (>) (2 tailed)

Results indicate a statistically significant gender difference in ideal partner preference across all domains: Artistic ($F(1,2867)=73.8, p=.00$); Caring ($F(1,2867)=104.51, p=.00$); Balanced ($F(1,2867)=76.27, p=.00$); Sociable ($F(1,2867)=7.96, p=.01$); Athletic ($F(1,2867)=8.96, p=.03$); Image-conscious ($F(1,2867)=275.05, p=.00$) and Successful ($F(1,2867)=235.05, p=.00$). It is more important to men than women that their partner is Artistic, Sociable and Image-conscious. It is more important to women than men that their partner is Caring, Balanced, Athletic and Successful. Based on these results, H5a was rejected, H5b was supported and H5c was rejected.

One-way, between-subjects ANOVA was used to test ideal partner preferences of heterosexual women with children; the IPQ factors means are

presented in Table 3.15. Results indicate that this group of participants differed from all others in all areas of ideal partner preference, except demand for an Artistic partner. These differences were statistically significant for the IPQ domains: Caring ($F(1,2867)=52.79, p=.00$); Balanced ($F(1,2867)=85.90, p=.00$); Sociable ($F(1,2867)=74.35, p=.00$); Athletic ($F(1,2867)=10.76, p=.00$); Image-conscious; and, Successful ($F(1,2867)=58.77, p=.00$). It is more important to heterosexual women with children, than to anyone else, that their partner is Caring, Balanced and Successful. They place less importance than everyone else on their partner being Sociable, Athletic and Image-conscious; H5d was supported.

A new factor was created for gender (male/female) and sexuality (heterosexual/non-heterosexual). Scores on all IPQ domains were summed, for each participant, as a way of understanding each person's level of demand overall. A one-way, between-subjects ANOVA showed that overall demand is affected by gender and sexuality ($F(3,2820)=4.84, p=.00$). Post-hoc comparisons using the Bonferroni tests indicated that this was driven by heterosexual women ($M=.08, SD=1.9$) being more demanding than heterosexual men ($M=-.13, SD=1.85$). There were no significant differences found between other gender and sexuality factors; H5e was partially supported.

3.3.7. Independent samples t-tests: Preferred education and income status, by age and gender. Approximately half of all participants ($n=1416, 49.4\%$) stated they had no preference in terms of their ideal partner's education and income status. Only those participants who expressed a preference were included in the analysis ($n=1416, 50.6\%$). An independent samples t-test found no significant difference in age when comparing the group of participants seeking a partner who is

educated to an equal or higher level than them ($M=26.82$, $SD=8.49$) to those wanting a less educated partner ($M=27.15$, $SD=7.65$); $t(1449)=.68$, $p=.49$).

The age of participants who indicated they wanted a partner who earns the same as them or more was compared to that of participants who sought someone with a lower income than them. An independent samples t-test found there was a significant difference in the mean age of the “equal or higher income” group ($M=27.58$, $SD=8.19$) to that of the participant group expressing a preference for a lower income partner ($M=25.73$, $SD=8.24$); $t(1449)=-4.12$, $p=.00$. Older participants are more likely to seek a partner who earns the same as them or more. A further independent samples t-test highlighted that this difference was driven by gender, specifically: older women are more likely to want a partner who earns the same as them or more ($M=28.25$, $SD=8.24$), whereas women who seek a partner who earns less than them are younger ($M=25.83$, $SD=8.52$); $t(978)=-4.01$, $p=.00$. There was no difference in age between men who sought a partner of equal or higher income ($M=25.46$, $SD=6.94$), to men who seeking a partner who earns less than them ($M=25.61$, $SD=7.92$); $t(469)=.21$, $p=.83$). Therefore, H6a and H6b were rejected, while H6c was partially supported.

3.3.8. Chi-squared analysis of religious status. Chi-squared was used to test participant’s own religious status to that of their ideal partner. A significant relationship was found, $\chi^2(64, N=2824)=8195.04$, $p=.00$ indicating that people are more likely to seek a partner with a similar religious status to them, although this was largely driven by the ‘no religious affiliation’ category ($N=970$); H7 was rejected.

3.4. Discussion

3.4.1. How do individual differences predict preferred partner characteristics? This study confirmed that individual differences predict ideal partner

preferences. The findings demonstrate that these differences can be measured using the refined IPQ tool, and that they are partially explained by Big Five personality traits. In this way, the IPQ tool builds on, rather than replicates, Big Five personality measures. This study confirms the potential utility of the refined IPQ – a novel tool - for supporting both academic and commercial activity in the field of romantic partner selection. This is on the basis that it offers a more comprehensive account of partner preference than personality alone and overlaps with and extends the most prominent alternative preference framework.

Using the refined tool with a novel sample allowed us to extend what is known about the nature of differential romantic preference from previous literature in a number of ways and, in doing so, provides an original contribution to study. Firstly, the most sought-after ideal partner characteristic was Caring; this is consistent with both previous evidence and Study 2's findings using the previous iteration of the IPQ tool. The second-most sought-after IPQ characteristic was Balanced, with the factor analysis indicating that people who want considerate partners also want them to be Balanced. Again, this is understandable given the conceptual relatedness of these two factors. In the present study, the least sought-after characteristic was Image-conscious, whereas for Study 2 this was Athletic. For IPQ2, this factor was derived from exploratory factor analysis, rather than being a domain included explicitly from the outset. There was, therefore, a limited number of items included; those that were tended to focus on being fashionable¹². Building on this to develop the revised IPQ tool for this study involved developing additional items for this factor. The new factor, within the 168-item inventory, was built upon those found in the previous

¹² For example, “keeps up with the latest fashion” and “is stylish”.

version by exemplifying what it means to be fashionable in an aesthetic sense,¹³ as well as in terms of latent values and priorities.¹⁴ It could be that, although only a nuanced difference, those items that indicate people are fashionable to an extreme degree or at a significant cost have negatively impacted participant response.

There was a strong relationship in the model between the Image-conscious factor and sociability, with the analysis of the relationship between IPQ and personality factors also supported this finding. Considering both analyses together builds not only upon the current understanding of individual differences in preference, but also provides evidence of the latent values and behaviours associated with the IPQ domains. By way of example, Study 2 (see: Chapter 2) and the present study both found that emotionally stable extraverts concerned with details are more likely to seek outgoing partners who care about what they look like; these people are also less likely to be considerate towards others' needs. This finding describes a specific cohort of people who like to spend time with other people and who are confident when doing so, yet who place great importance on appearances and far less on keeping others happy.

The present study confirmed the previous chapter's findings: that Artistic types are sought by more open-minded introverts, with lower emotional stability. Interestingly, within the IPQ factor model, Artistic was the only factor which correlated negatively with all others, indicating that people seeking an Artistic partner have distinct preferences. This is a notable and interesting new addition to the current literature which has not identified this as a specific factor in the same way. As such it

¹³ For example, "is attractive" and "is striking looking"

¹⁴ For example, "is obsessed with fashion" and "wears designer clothes"

is also worthy of more in-depth study. It could also be a particularly helpful illustration of the role played by implicit assumptions underpinning the process of deciding what is most important in a partner. Looking at the detail of these assumptions within the Artistic-Successful item pairings, participants are asked, for example, whether they would like a partner who wants to write a book or wants to be rich; the assumption here being that one cannot achieve both. The negative correlation between preference for Artistic and preference for Successful at the factor level could indicate that this assumption – whether accurate or not – has affected stated ideals.

Consistent with the previous study, Athletic and Successful types are more appealing to people high on Conscientiousness. In addition, the present study showed that these ideal qualities are more likely to be identified by people who care less about keeping others happy; this indicates that goal-oriented people who put themselves first are likely to expect the same from a partner, and that achievements in sport and work are interpreted as proxies for these latent values and the behaviours they elicit. Again, this helpfully advances current thinking about the evolutionary drivers of partner choice by providing more nuanced information about how the concept of fitness is conceptualised in a functional way.

3.4.2. Do eligible partners share personality characteristics? As hypothesised, relationship length was positively correlated to the three Big Five variables typically associated with a range of positive relationship outcomes (Conscientiousness, Agreeableness and Emotional Stability) and to IPQ characteristics associated with kindness, consideration and management of emotions. Those who had experienced shorter relationships typically prioritised more superficial values – those related to looks and having fun - when choosing partners. People who rated themselves as more eligible were more likely to seek a partner who is Image-

conscious, Athletic and Successful; this could indicate that self-ratings of eligibility are driven by more extrinsic ideals. Finally, more eligible partners tended to have been in longer relationships; this is consistent with evidence that people are able to assess their own value as a partner reasonably accurately (L. Lee et al., 2008). These findings strengthen support for the IPQ as a novel tool for use in the field, while also providing new information about characteristics likely to lead to relationship success.

3.4.3. Which characteristics are desirable across genders, and which are specific? The rejection of the hypothesis that everyone wants a partner who earns the same as them or more is interesting. The fact that approximately half of all participants actively indicate that they had no preference in regard for their partner's level of income could indicate potential response bias that is perhaps attributable to survey design. Alternatively, it could be that people use earning as a proxy indicator for latent traits which have a differential level of appeal. If, for example, earning is conceptually associated with other attributes related to status or success (such as those illustrated by items within the Successful IPQ domain), it makes sense that there would be individual differences in the income levels sought. It is not possible, however, to interpret this finding fully from the data. The data analysed, however, indicated that women's desire for a partner that earns the same as them or more increases, rather than decreases, with age. While it is not possible to ascertain the reason for this from the data alone, globally, women live longer than men (Max Planck Institute for Demographic Research, 2013) and yet are more likely to be unemployed – often as a result of raising children; when working, they typically earn less (United Nations Statistics Division, 2010). This could be a factor and could also explain why heterosexual women with children are the most demanding of all sub-groups studied and are those who place most importance on a partner who can take

care of them. The finding that men, more than women, seek a partner who is fit and attractive, is consistent with established evolutionary theory and thereby strengthens the case for the IPQ's validity.

3.4.4. Limitations. As was the case with Study 1 (see: Chapter 2), the present study is limited by the fact that the personality profile of applicants to a reality TV show may not be generalisable to the wider population. Compared to norm groups, aged 21-30 (Gosling, Rentfrow, & Potter, 2014), both male and female participants in the present study scored significantly more highly on all Big Five variables. Participants may also have been purposely selecting answers that they thought made them stand out, to maximise their chances of being selected to appear on the show.

The sample is limited by its bias towards heterosexual respondents. The highly limited number of homosexual and bisexual participants meant that data were grouped for results to be meaningful; this meant classifying data for the analyses in question as relating to heterosexual and non-heterosexual participants. This clustering was not ideal: it does not reflect what is known as being the wide spectrum of human sexuality and the cluster labelling could be seen to imply heteronormativity, which was not the intention. Similarly, accepted norms regarding classification of gender have moved on considerably since this data-gathering protocol was designed.

3.4.5. Recommendations for further study. To further confirm the potential of the IPQ to support future research and measurement of partner preference, it would be useful to test it with different populations, including, in particular, people of different gender identities and sexualities. It would also be useful to gather data from couples, to understand dyadic perceptions of eligibility and how this relates to IPQ scores.

Given the finding that IPQ was correlated with - but did not replicate - an

established personality measure, future studies should seek to explore the currently unexplained variance in partner preference, as measured by the IPQ. In the first instance, this work could explore the extent to which the IPQ relates to other established models within the field of individual differences; this lack of concern for keeping others happiness predicts that the IPQ traits Successful, Outgoing, Image-conscious and Athletic warrant further investigation. It would be interesting, in this regard, to explore whether there is any relationship between preference for these IPQ factors among those with Dark Triad traits. Primary psychopathy, for example, is characterised by self-confidence, but has also been shown to correlate with intimacy (Ali & Chamorro-Premuzic, 2010) - particularly in women (Savard, Brassard, Lussier, & Sabourin, 2015). Emotional intelligence is another significant area of individual difference research, and is particularly important to consider in the context of interpersonal relationships (Lopes et al., 2003; Schutte et al., 2001); this could be a useful model to test against the IPQ. Indeed, there has been extensive study on the role played by emotional intelligence in those with Dark Triad traits (Jauk, Freudenthaler, & Neubauer, 2016; Petrides, Vernon, Schermer, & Veselka, 2011), so the two could be considered in parallel.

Preference for different income and educational status warrants further study to understand whether the present findings are meaningful, or whether they are an artefact of survey design. This work could involve replicating these questions with a different sample, or gathering survey data that forces people to express a preference. Finally, the IPQ is a quantitative measure of ideal partner preference; tool validation could usefully involve triangulating findings with qualitative self-report data on the characteristics, behaviours, traits and values people seek in a mate.

CHAPTER 4: *The Relationship Between Stated Preference, Self-Rated Eligibility, Psychopathy, Machiavellianism and Emotional Intelligence*

STUDY 4

4.1. Introduction

4.1.1. Personality correlates of Machiavellianism and psychopathy.

Studying negative traits, as well as those that are more generally seen as positive, is established in the literature as being an important area of relationship science (for introduction, see: Chapter 1). Machiavellianism, psychopathy and narcissism together are known as the Dark Triad (Paulhus & Williams, 2002): personality characteristics that are undesirable, yet of subclinical significance (after Raskin & Hall, 1979).

Machiavellianism and psychopathy share more in common with each other than with narcissism, and are accepted as the two “darkest” of these Dark Triad traits (Jones & Paulhus, 2011a; Petrides et al., 2011; Rauthmann & Kolar, 2012, 2013a, 2013b); they are overlapping but distinct concepts (Furnham et al., 2013; McHoskey et al., 1998; Paulhus & Williams, 2002; Vernon, Villani, Vickers, & Harris, 2008).

Machiavellianism is characterised by immoral, manipulative, deceitful and unscrupulous behaviour towards others for personal gain (Christie, 1970b).

Psychopathy is a single, continuous dimension comprising: primary psychopathy, associated with shallow affect, cruelty and self-serving behaviour, while secondary psychopathy is typified by thrill-seeking, impulsivity and low emotional stability (Levenson et al., 1995). Prevalence data indicates that between 13 and 30 per cent of people in the community are likely to exhibit subclinical but higher-than-average psychopathy (Savard et al., 2015; Savard, Sabourin, & Lussier, 2006; Vachon et al., 2013); this is the most malignant of the Dark Triad traits (Rauthmann, 2012). Men tend to score more highly than women in respect of both traits (Furnham & Trickey, 2011; K. Lee & Ashton, 2014; McHoskey, 2001b; Muris, Merckelbach, Otgaar, & Meijer, 2017; Paulhus & Williams, 2002).

The two traits have been the focus of considerable research in recent years (Ali, Amorim, & Chamorro-Premuzic, 2009; Furnham et al., 2013) and correlations with Big Five personality variables are well-established (Furnham et al., 2013; Lynam & Derefinko, 2006). Unsurprisingly, both Dark Triad traits have been associated strongly and consistently with low Agreeableness and low Conscientiousness (Furnham et al., 2013; Lynam & Derefinko, 2006). The negative relationship with Agreeableness has been explained, in part, by low compassion in psychopaths (Jonason, Kaufman, Webster, & Geher, 2013) and low politeness in Machiavellians (Jonason et al., 2013). Psychopaths are low in Neuroticism (Lykken, 2006; Paulhus & Williams, 2002), although secondary psychopathy predicts high anxiety along with low self-esteem (Cleckley, 1955; Hare, 1985). Machiavellianism also correlates with high Emotional Stability (Paulhus & Williams, 2002) and Extraversion (Allsopp, Eysenck, & Eysenck, 1991). Evidence of the relationship between dark traits and the Big Five traits of Openness and Extraversion has been weaker (Jakobwitz & Egan, 2006; Lynam & Derefinko, 2006).

4.1.2 Machiavellianism and psychopathy in romantic interpersonal relationships. Both psychopathy and Machiavellianism involve lack of concern towards, or the maltreatment or manipulation of, others. Understanding the impact of these traits on the psychology of interpersonal relationships is, therefore, recognised as an important area of academic study (Jonason, Luevano, et al., 2012; Rauthmann, 2012). The differential effect of dark triad traits on psychosocial functioning, as well as the fact that people employ different mating strategies under different circumstances, render it particularly important to explore this specifically in the context of partner selection (Jonason, et al., 2012). Despite the recent academic interest, this remains an under-researched area (Ali & Chamorro-Premuzic, 2010;

Ináncsi et al., 2016; Jonason & Kavanagh, 2010; Jonason, et al., 2012; Veronica Smith et al., 2014). Studies of people with these traits, in the context of personal relationships, have typically focused on social - as opposed to romantic - relationships. What evidence there is tends to focus on these dark traits in regard to: self-presentation and perceived eligibility, mating strategies and relationship outcomes.

4.1.2.1. Self-presentation and perceived eligibility. People with these dark traits can initially be perceived as eligible (although women's attraction to men with these traits decreases with age ; Qureshi, Harris, & Atkinson, 2016) and this cannot be wholly explained by their scores on Big Five personality domains (Carter, Campbell, Muncer, et al., 2014; Rauthmann, 2012). It has been demonstrated that this initial attractiveness is superficial, relating particularly to a carefully cultivated outward appearance (Holtzman & Strube, 2013) and insincere charm (Paulhus & Williams, 2002).

Both highly Machiavellian (*High Machs*) and subclinically psychopathic people engage in high self-monitoring and self-promotion (Geis, Christie, & Nelson, 1970), offline and online (Abell & Brewer, 2014). Machiavellian self-monitoring has been identified as protective in nature, to guard against rejection of behaviour seen as inappropriate (Rauthmann, 2011); as a result, High Machs – particularly those younger in age (Rauthmann, 2012) – can be seen as confident, likeable, intelligent and influential (Cherulnik, Way, Ames, & Hutto, 1981; Fehr & Samson, 1992). In contrast, psychopathic self-monitoring is acquisitive (as well as protective) in nature, in that its goal is to maximise personal gain (Rauthmann, 2011). In this way, Machiavellian people can be seen as more covertly or passively malevolent in the way they operate, whereas subclinical psychopaths are more overtly dark; accordingly, the

two groups have been termed *hostile submissive* and *hostile dominant*, respectively (Rauthmann & Kolar, 2013a).

The evidence on how people with dark triad traits rate themselves comes predominantly from the broader personality literature, rather than that pertaining to romantic relationships. There is evidence, for example, that Machiavellian types rate their interpersonal skills negatively, accurately gauging their low dominance, gregariousness and openness; whereas, psychopaths, tend to self-report a combination of positive and negative characteristics (Rauthmann, 2012). These findings are aligned with evidence that Machiavellians appraise themselves realistically and are less likely to over-state their strengths or abilities (Christie & Geis, 1970; Paulhus & Williams, 2002). It seems reasonable to hypothesise that this would extend to close interpersonal relationships, resulting in a low eligibility self-rating. In contrast, given their confident, dominant style and a drive for success, it is feasible that psychopaths will rate themselves as being highly eligible as partners.

4.1.2.2 Mating strategies and goals. Both Machiavellian and psychopathic people seek to avoid long-term relationships (Koladich & Atkinson, 2016) and, therefore, these traits correlate negatively with intimate relationship behaviour and ideals (Ali & Chamorro-Premuzic, 2010; Finkel et al., 2012; Ináncsi et al., 2016). Accordingly, both Machiavellian people and subclinical psychopaths employ a range of strategies and tactics to prevent committing to a relationship to a greater degree than desired (Jonason & Buss, 2012).

Comparing the two traits, it can be seen that Machiavellian personalities may be better able to flex their relationship style - albeit within a tactical, self-interested frame of reference - while subclinical psychopaths adopt a predominantly game-playing strategy (Jonason & Kavanagh, 2010); this may be because High Machs

expect control in interpersonal relationships in a way that they do not in other areas of life (Paulhus, 1983), while psychopathy is characterised by aggressive assertions of power and control in a range of domains (Jonason, Slomski, & Partyka, 2012; Kajonius, Persson, & Jonason, 2015). Both traits predict deceitful behaviour in close personal relationships in particular (Brewer & Abell, 2017; Jonason, Lyons, Baughman, & Vernon, 2014; McHoskey, 2001a). The literature indicates that subclinically psychopathic men are more likely to engage in an accelerated mating strategy, seeking short-term relationships (Jonason et al., 2009) or those that are exclusively sexual in nature (Jonason, Luevano, et al., 2012). While this research is rooted in evolutionary theory (Furnham et al., 2013), recent literature highlights an absence of evidence for gender differences in this regard (Carter, Campbell, & Muncer, 2014).

4.1.2.3 Relationship outcomes. From the standpoint that short-term mating behaviour is evolutionarily adaptive for men, the two Dark Triad traits of interest have been identified as advantageous (Jonason et al., 2009; Jonason, Valentine, Li, & Harbeson, 2011); the availability of potential short-term partners is maximised as a result of lowered standards (Jonason et al., 2011) and women can perceive subclinically psychopathic men as more masculine (Lyons, Marcinkowska, Helle, & McGrath, 2014). It has been noted, however, that there are both evolutionary and sociocultural advantages that render long-term romantic attachments of particular importance and value (Jonason et al., 2011; Salmon & Catherine, 2017); in this context, people with Dark Triad traits or those in relationships with them experience poorer outcomes. Both types, for example, are willing to employ exploitative, manipulative mate retention tactics (Goncalves & Campbell, 2014; Holden, Zeigler-Hill, Pham, & Shackelford, 2014) and both have been linked to “unhealthy” (i.e.

anxious and possessive jealousy) in romantic relationships (Barelds, Dijkstra, Groothof, & Pastoor, 2017).

Machiavellians neither like, nor have concern for, others (Rauthmann & Kolar, 2013a); accordingly, their longer-term relationship behaviours are likely to be maladaptive. More specifically, High Machs employ negative retention tactics, involving high levels of coercion and competition (Brewer & Abell, 2015).

Machiavellianism predicts infidelity in women and while this does not predict relationship dissolution (Jones & Weiser, 2014), when Machiavellian women do end relationships they tend to experience low levels of concern about this (Brewer & Abell, 2017).

Psychopathy correlates to a range of negative relationship outcomes, including higher levels of infidelity (Jonason & Buss, 2012): this has been attributed to greater tolerance of the risk of being caught (Adams, Luevano, & Jonason, 2014) and for male infidelity in particular it also predicts relationship dissolution (Jones & Weiser, 2014). In addition, those with subclinically psychopathic personalities experience poor initial and ongoing marital satisfaction and marriages that are more likely to end in divorce (Weiss, Lavner, & Miller, 2016).

4.1.3. Dark Triad traits and preference. There is a recognised paucity of evidence on the characteristics that Machiavellian and psychopathic types consider to be ideal in a mate (Savard et al., 2015). Of the limited research on Dark Triad personalities and close relationships, the overwhelming majority has been on the impact of these traits on actual dyadic behaviour and outcomes, rather than on expressed preference.

On one hand, consistent with evidence that people can seek others with whom they are alike in terms of traits typically deemed undesirable (Dubuis-Stadelmann,

Fenton, Ferrero, & Preisig, 2001; Krueger, Moffitt, Caspi, Bleske, & Silva, 1998), is a body of research indicating that this theory extends to those with Machiavellian and subclinically psychopathic personalities (Jonason, Lyons, & Blanchard, 2015; Jonason et al., 2011; Kardum et al., 2016; Novgorodoff, 1974); this has been shown to be the case for both short- and long-term partner selection (Asquith, Lyons, Watson, & Jonason, 2014). On the other hand, a small amount of evidence supports the negative assortative mating in respect of Machiavellianism (Touhey, 1977).

The IPQ tool, developed and validated in Chapters 2 and 3, will be used in the present study. The tool contains items that pertain to both areas seen as being within the control of the individual, and those which are externally-controlled: within self-determination theory, these are deemed *intrinsic* and *extrinsic* goals, respectively (Deci & Ryan, 1985). In terms of extrinsic goals, High Machs are acquisitive, valuing financial reward, status, power and success (Deluga, 2001; Vedel & Thomsen, 2017). Importantly (especially when compared to psychopathy), this is at the expense of others (Jones & Paulhus, 2009). There is some evidence that this influences partner selection in Machiavellian types, such that Successful partners are more sought-after (Ináncsi et al., 2016). Machiavellians place importance on material success over intrinsic goals, such as family and community, and are disinterested in social engagement and cooperation (McHoskey, 1999; Paal & Bereczkei, 2007). Psychopaths also value status and wealth. They are individualistic rather than community-focused in nature, although this is manifest in erratic, unsympathetic, impulsive and risky behaviours (Jones & Paulhus, 2011b; Mullins-Nelson, Salekin, & Leistico, 2006; Rauthmann & Kolar, 2013a). As such, both traits are antagonistic, rather than mutualistic, in nature (Jones & Figueredo, 2013; Rauthmann, 2012).

Looking at the established correlations between Big Five personality traits and ideal partner preferences (as defined by the IPQ from Study 3, see: Chapter 3), it can be seen that Agreeableness predicted preference for a Caring partner. One would, therefore, expect this IPQ factor to be of low importance to those scoring highly on Machiavellian and psychopathy scales; this would also support evidence from a single study of Machiavellianism and ideal partner preference, that people with this personality type do not value warmth, loyalty, openness and agreeableness in a partner (Ináncsi et al., 2016). High scores on Agreeableness and Conscientiousness predicted preference for a Balanced partner. Accordingly, given the established low levels of these two Big Five traits in dark personalities – plus the propensity to control and manipulate others – it could be anticipated that both High Machs and subclinical psychopaths seek low emotional stability in a partner.

Conscientiousness correlated negatively with the IPQ Artistic factor. Given that people with Machiavellian and subclinically psychopathic personalities are low on Conscientiousness, it would be expected that they prefer partners with Artistic qualities - as defined by the IPQ. Agreeableness and Conscientiousness also correlated negatively with the IPQ Image-conscious factor. In addition to the notion that a partner's physical attractiveness can reflect on a person's own status, this indicates that people scoring highly on Machiavellian and subclinical psychopathy scales are likely to prefer Athletic and Image-conscious partners. Finally, the negative relationship between the IPQ factor Sociable and both Conscientiousness and Agreeableness - in combination with the established evidence that people with dark triad traits tend to be extraverted - suggests that high-scoring Machiavellianism and subclinical psychopaths are likely to prefer Sociable partners.

4.1.4. Rationale for the present study. In conclusion, there is very little in the published literature about what people with Machiavellian and subclinically psychopathic personalities seek in a mate, or how eligible they rate themselves under different circumstances. At their core, the Dark Triad traits of interest in the present study comprise unique aspects of behaviour, attitude and beliefs (Jones & Figueredo, 2013). The IPQ tool, therefore, may be particularly relevant for understanding the impact of these traits on partner selection, given that it encompasses a comprehensive range of attributes and latent values. As a new tool, the IPQ has the potential to advance scientific thinking by providing a unifying framework for understanding romantic partner preference. Given that there is a highly robust and prominent alternative model in place (ISM, Fletcher et al., 1999), demonstrating the IPQ's validity, reliability and usefulness is of critical importance for this thesis, and for the field more broadly. Doing this understanding how the constructs in the IPQ relate to other factors known to predict preference, and demonstrating that the IPQ adds to, rather than replicates, these variables. Dark Triads – for the reasons described in 4.1.1 – 4.1.3) are important variables on which to focus. This study will therefore provide an original contribution to knowledge both about partner selection and about the role played by these negative traits in relationships.

4.1.5. Hypotheses.

H1. Ideal partner profile, as tested by the refined IPQ, will be partially explained by psychopathy and Machiavellianism after controlling for demographic factors. In addition, looking at each IPQ factor in turn:

H1a. Both traits will correlate positively with the IPQ factor Artistic (on the basis that, in Study 3, Conscientiousness correlated negatively with

preference for an Artistic partner and dark traits indicate low Conscientiousness);

H1b. Both traits will correlate negatively with the IPQ factor Caring (on the basis that both psychopaths and High Machs are low on Agreeableness, which Study 3 showed predicts preference for a Caring partner);

H1c. Both traits will correlate negatively with the IPQ factor Balanced (on the basis that they both seek a person susceptible to emotional control, and that Study 3 found Agreeableness and Conscientiousness to be predictors of a preference for a highly Balanced partner);

H1d. Both traits will correlate positively to the IPQ factors Athletic and Image-conscious (on the basis that a partner's physical attractiveness reflects on the subject's own status and attractiveness, plus low preference for the IPQ trait Image-conscious was associated with high Agreeableness and Conscientiousness);

H1e. Machiavellianism will correlate positively to the IPQ factor Sociable partner (on the basis that people with these characteristics are themselves extraverted, and there was a negative relationship between this IPQ factor and both Conscientiousness and Agreeableness in Study 3);

H1f. Both traits will correlate positively with the IPQ factor Successful (on the basis of established theory on these dark traits).

H2 Participants' subjectively-rated eligibility and length of longest relationship will be explained by individual differences in dark personality traits; specifically:

- H2a Self-rated eligibility will correlate positively to psychopathy and negatively to Machiavellianism;
- H2b Relationship length will correlate negatively with both psychopathy and Machiavellianism, and this relationship will be stronger for psychopaths.

H3. High Machs will be more demanding than anyone else (on the basis that they expect the greatest control in interpersonal relationships and will specify all aspects of their partner's attributes to a greater degree).

H4. There will be a relationship between the subject's personality, as well as the stated income and education status of their ideal partner, such that Machiavellianism and psychopathy will predict preference for higher income and education status (aligned with H1f).

4.2. Methods

4.2.1 Participants and procedure. The study sample is as reported in Chapter 3. The present study includes additional measures and reports novel analyses.

4.2.2 Measures.

Demographic data was obtained for all participants, as per Chapter 3.

Subjectively-rated eligibility was measured as Chapter 3.

The **Mach-IV Test of Machiavellianism** (Christie, 1970a) was used, as per Chapter 2 (Study 1).

The **Levenson Self-report Psychopathy scale** (Levenson et al., 1995) was used, as per Chapter 2 (Study 1).

The **refined Ideal Partner Questionnaire** was used, as per Chapter 3.

4.3. Results

4.3.1. Descriptive statistics. Table 4.1 shows the possible and observed ranges, mean scores and standard deviations for Machiavellianism and psychopathy.

Table 4.1.

Descriptive Statistics: Ideal Partner Characteristics, Personality and Eligibility

Variable	N	Range	Observed range	M	SD
Machiavellianism	2772	20-140	50-143	87.70	12.17
Primary psychopathy	2754	16-64	16-62	29.95	7.15
Secondary psychopathy	2754	10-40	10-38	20.78	4.50
Total psychopathy	2754	26-104	27-96	50.73	9.81
Extraversion	2781	1-7	1-7	5.41	1.24
Agreeableness	2781	1-7	1.5-7	5.36	1.06
Conscientiousness	2781	1-7	1-7	5.31	1.21
Emotional stability	2781	1-7	1-7	5.04	1.26
Openness	2781	1-7	1.5-7	5.79	.94
Eligibility	2722	1-7	1-7	5.86	1.04
Proportion preferring items from the scale				M	SD
IPQ Artistic				.43	.15
IPQ Caring				.66	.14
IPQ Balanced				.54	.12
IPQ Athletic				.38	.13
IPQ Sociable				.52	.16
IPQ Image conscious				.52	.21
IPQ Successful				.53	.17

The same figures for ideal partner characteristics, Big Five personality traits and eligibility (first presented in Table 3.4, Chapter 3) are presented again in this table for

ease of reference. The mean score for Machiavellianism was 87.70 (SD 12.17) and the mean total psychopathy score was 50.73 (SD 9.81).

4.3.2. Correlation analysis: Dark personality predictors of ideal partner preferences. Firstly, the relationship between Machiavellianism, psychopathy and IPQ variables were tested. Table 4.2 shows two-tailed Pearson correlations for all pairs.

Table 4.2.

Bivariate Pearson Correlation Coefficients: Personality¹ and Revised IPQ Factors

Measure	Mach.	Pr. Psyc.	Sec. Psyc.	Total Psyc.
Artistic	-.00	-.14**	-.05*	-.12**
Caring	-.33**	-.41**	-.20**	-.40**
Balanced	-.29**	-.31**	-.24**	-.34**
Sociable	.14**	.26**	.16**	.26**
Athletic	-.02	.12**	-.07**	.05**
Image-conscious	.24**	.43**	.14**	.37**
Successful	.12**	.27**	-.01	.19**

Note. ¹ Machiavellianism, Primary Psychopathy, Secondary Psychopathy, Total Psychopathy; ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.

Of the 28 possible correlations, 24 were significant at $p < .01$, and 7 of these were of a moderate size, namely, the relationships between: primary psychopathy and IPQ Caring; total psychopathy and IPQ Caring; primary psychopathy and IPQ Balanced; total psychopathy and IPQ Balanced; primary psychopathy and IPQ Image-conscious; and total psychopathy and the IPQ trait Image-conscious.

There was no significant relationship between Machiavellianism and preference for an Artistic partner. Total psychopathy correlated negatively with this IPQ trait ($r=-.12$, $p<.01$); H1a was rejected. Machiavellianism correlated negatively with preference for a Caring partner ($r=-.33$, $p<.01$), as did total psychopathy ($r=-.40$, $p<.01$); H1b was supported. Machiavellianism correlated negatively with preference for a Balanced partner ($r=-.29$, $P<.01$), as did total psychopathy ($r=-.34$, $P<.01$); H1c was supported.

There was no significant relationship between Machiavellianism and preference for an Athletic partner. Total psychopathy correlated significantly with preference for an Athletic partner ($r=.05$, $p<.01$), although the primary psychopathy factor correlated positively with this IPQ trait ($r=.12$, $p<.01$) and secondary psychopathy correlated negatively with it ($r=-.07$, $p<.01$). Machiavellianism correlated positively with preference for an Image-conscious partner ($r=.24$, $P<.01$), as did total psychopathy ($r=.37$, $P<.01$). The relationship was stronger for primary psychopathy and image-conscious ($r=.43$, $P<.01$) than for secondary psychopathy and this IPQ factor ($r=.14$, $P<.01$); H1d was partially supported.

Machiavellianism correlated positively to preference for a Sociable partner ($r=.14$, $p<.01$), as did total psychopathy ($r=.26$, $p<.01$). The relationship was stronger for primary psychopathy and Sociable ($r=.26$, $p<.01$) than for secondary psychopathy and this IPQ factor ($r=.16$, $p<.01$); H1e was supported.

Machiavellianism correlated positively to preference for a Successful partner ($r=.12$, $p<.01$), as did total psychopathy ($r=.19$, $p<.01$). Secondary psychopathy did not correlate significantly to preference for this trait whereas primary psychopathy did ($r=.27$, $p<.01$); H1f was supported.

4.3.3. Multiple regression: demographic factors, personality traits and

IPQ variables. Seven forced-entry multiple regressions were performed to determine the extent to which Machiavellianism and psychopathy explained expressed preference in each of the revised ideal partner domains, over and above demographic factors and Big Five characteristics; results are shown in Tables 4.3, 4.4 and 4.5.

Table 4.3.

Multiple Regression Model for IPQ Factors and Demographics (Model 1):

Standardised Weights and R Square

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 1 (demographics)								
Beta weights	Age	.18**	.21**	.21**	-.28**	-.12**	-.25**	-.18**
	Gender	-.18**	.16**	.14**	-.03	.07**	-.28**	.31**
	Sexuality	.07**	.01	-.01	-.05**	-.10**	-.05**	.02
	Educ.	.10**	.02	-.04	-.04*	.06**	-.08**	-.00
	Income	-.14**	-.04*	.00	.07**	.14**	.10**	.19**
	Politics	.16**	-.02	-.02	-.10**	-.03	-.12**	.03
	Ethnicity	.03	-.06**	.05**	-.15**	-.02	.02	.13**
	Religion	.18**	-.03	-.05**	-.12**	-.09**	-.08**	-.03
R2		.16	.08	.07	.15	.05	.19	.14
Adj. R2		.16	.08	.07	.15	.05	.19	.14

Notes: ¹ IPQ factors: Artistic, Caring, Balanced Sociable, Athletic, Successful, Image-conscious; ** $p < .01$, * $p < .05$.

Table 4.4.

*Multiple Regression Model for IPQ Factors, Demographics and Big Five Variables
(Model 2): Standardised Weights and R Square*

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 2 (demographics and personality²)								
Beta weights	Age	.18**	.14**	.14**	-.22**	-.11**	-.21**	-.16**
	Gender	-.18**	.14**	.13**	-.04*	.07**	-.28**	.32**
	Sexuality	.06**	.01	.00	-.05**	-.09**	-.05**	.03
	Educ.	.09**	.01	-.04*	-.03	.06**	-.08**	.00
	Income	-.09**	-.05	-.01	.04*	.10**	-.08**	.15**
	Politics	.17**	-.00	-.02	-.10**	-.03	-.13**	.02
	Ethnicity	.03	-.05**	.05**	-.15**	-.03	.01	.12**
	Religion	.14**	-.03	-.04*	-.11**	-.08**	-.08**	-.01
	Extra.	-.19**	-.03	-.09**	.29**	.12**	.12**	.09**
	Agree.	.01	.27**	.20**	-.07**	-.05*	-.11**	-.16**
	Consc.	-.07**	.07**	.17**	-.10**	.14**	.013	.14**
	Emot.	-.09**	-.06**	-.00	.07**	.05**	.05**	.06**
	Open.	.27**	-.18**	-.19**	-.06**	-.04*	.01	-.01
R2		.25	.18	.19	.24	.09	.22	.18
Adj. R2		.25	.17	.18	.24	.08	.22	.18

Notes: ¹ Artistic, Caring, Balanced Sociable, Athletic, Successful, Image-conscious.

² Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience; ** $p < .01$, * $p < .05$.

Table 4.5.

Multiple Regression for IPQ Factors, Demographics, Big Five Variables and Dark Personality Traits (Model 3): Standardised Weights and R Square

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 3 (demographics, Big Five personality² and dark personality traits³)								
Beta weights	Age	.16**	.08**	.10**	-.19**	-.08**	-.15**	-.09**
	Gender	-.19**	.09**	.10**	-.02	.09**	-.22**	.38**
	Sexuality	.05*	-.01	-.01-	-.04*	-.08**	-.03	.05**
	Educ.	.08**	-.02	.07**	-.01	.07**	-.05**	.02
	Income	-.09**	-.03	-.04	.04*	.10**	.07**	.14**
	Politics	.16**	-.01	-.02	-.09**	-.03	-.11**	.02
	Ethnicity	.03	-.04*	.06*	-.15**	-.03	.00	.10**
	Religion	.14**	-.04*	-.04*	-.11**	-.07**	-.07**	.00
	Extra.	-.19**	-.02	.09**	.28**	.11**	.11**	.08**
	Agree.	-.03	.16**	.12**	-.00	-.04	-.00	-.08**
	Consc.	-.08**	.04*	.13**	-.07**	.12**	.04*	.13**
	Emot.	-.10**	-.07**	-.03	.09**	.03	.06**	.04
	Open.	.27**	-.18**	-.18**	-.06**	-.04	.01	.00
	Mach.	.05*	-.10**	-.11**	-.00	-.07**	.03	.03
	Pr.Psy.	-.13**	-.26**	-.12**	.15**	.17**	.31**	.35**
	Sec.Psy.	-.05*	-.01	-.07**	.07**	-.06*	.01	-.11**
	R2	.27	.26	.23	.27	.11	.30	.28
	Adj. R2	.26	.25	.23	.26	.10	.30	.27

Notes: ¹ IPQ factors: Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful; ² Extraversion, Agreeableness, Conscientiousness, Openness, Emotional Stability; ³ Machiavellianism and psychopathy; ** $p < .01$, * $p < .05$.

The two dark traits were significant predictors of ideal partner preference in respect of all IPQ factors, explaining between 1% (Artistic model) and 9% (Successful model) of the variance in addition to demographic and Big Five

personality factors (significant improvement for all models, $p < 0.01$). For three of the models (Image-conscious, Sociable and Successful), the additional variance explained by the dark traits was due to psychopathy alone. For the Caring and Image-conscious models, only primary psychopathy was a significant explanatory variable - not secondary psychopathy. Scatterplots and tests for collinearity indicated that assumptions of homogeneity of variance and linearity were met for all models, and all residuals approximated a normal distribution. H1 was supported.

4.3.4. Correlation analysis: Eligibility, relationship length,

Machiavellianism and psychopathy. Table 4.6 shows two-tailed Spearman correlations between subjectively-rated eligibility, length of longest relationship and the dark personality factors of interest.

Table 4.6.

Relationships Between Eligibility, Relationship Length and Personality

	Eligibility	Relationship length
Machiavellianism	-.13**	-.09**
Primary Psychopathy	-.05*	-.15**
Secondary Psychopathy	-.21**	-.09**
Total Psychopathy	-.13**	-.15**

*Note: ** $p < .01$ and * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.*

Self-rated eligibility correlated negatively to both Machiavellianism (Rho = -.13, $p < .01$) and psychopathy (Rho = -.13, $p < .01$); H2a was partially supported.

Relationship length correlated negatively with both Machiavellianism (Rho = -.09, $p < .01$) and psychopathy (Rho = -.15, $p < .01$); H2b was supported.

4.3.5. Analysis of variance: High Machs' overall level of demand. One-way, between-subjects ANOVA was used to test ideal partner preferences of High Machs (scores >60), and the IPQ factors means are presented in Table 4.7.

Table 4.7.

IPQ Scale Factor means for High Machs (HM) Compared to All Other Participants (AP)

IPQ domain	<i>n</i>	HM	AP	HM:AP comparisons ¹
Artistic	2772	.03	-.05	n.s.
Caring	2772	-.05	.43	HM<<AP
Balanced	2772	-.04	.48	HM<<AP
Sociable	2772	.00	-.42	HM>AP
Athletic	2772	.01	-.24	n.s.
Image-conscious	2772	.02	-.42	HM>AP
Successful	2772	.00	-.01	n.s.

¹*Correlations compared using ANOVA (greater than at the $p < .01$ level (>>); $p < .05$ level (>) (2 tailed)*

It is less important to High Machs than to everyone else that their partner is Caring and Balanced. It is more important to High Machs than to everyone else that their partner is Image-conscious and Sociable. These differences were statistically significant as follows: Caring ($F(1,2770)=8.04$, $p=.00$); Balanced ($F(1,2770)=9.32$, $p=.00$); Sociable ($F(1, 2770)=4.96$, $p=.03$) and Image-conscious ($F(1,2770)=4.80$, $p=.03$). There were no statistically significant differences found in respect of the IPQ

factors Artistic ($F(1, 2770)=.20, p=.66$), Athletic ($F(1, 2770)= 1.84, p=.17$) and Successful ($F(1, 2770)=.01, p=.93$); H3 was rejected.

4.3.6. Independent samples t-tests: Preferred education and income status, by dark personality trait. Approximately half of all participants ($n=1416, 49.4\%$) stated they had no preference in terms of their ideal partner's education and income status. Only those participants who expressed a preference were included in the analysis ($n=1416, 50.6\%$). An independent samples t-test found no significant difference in Mach-IV score when comparing the group of participants seeking a partner who is educated to an equal or higher level than them ($M=87.78, SD=11.96$) to those wanting a less educated partner ($M=87.55, SD=12.46$); $t(1379)=-.31, p=.75$). A further independent samples t-test found no significant difference in Mach-IV score for participants wanting a partner who earns the same as them or more ($M=87.45, 11.91$), when compared to those seeking a partner earning less ($M=88.24, SD=12.44$); $t(1379)=1.142, p=.25$.

Repeating the analysis for total psychopathy scores also found this trait was not a predictor of expressed preference for partner income and education. An independent samples t-test found no significant difference in total psychopathy score when comparing the group of participants seeking a partner who is educated to an equal or higher level than them ($M=50.72, SD=9.82$) to those wanting a less educated partner ($M=49.68, SD=9.54$); $t(1379)=-1.75, p=.08$). A further independent samples t-test found no significant difference in total psychopathy score for participants wanting a partner who earns the same as them or more ($M=50.51, 9.63$), compared to those seeking a partner earning less ($M=50.29, SD=10.01$); $t(1379)=-.39, p=.67$.

4.4. Discussion

4.4.1. What impact do Machiavellianism and Psychopathy have on preferred partner characteristics? Looking at each ideal partner factor in turn, it can be seen firstly that there was no significant relationship between Machiavellianism and preference for an Artistic partner; this is unlike psychopathy, where there was a significant negative relationship. These findings contrasted with the expected finding of a positive relationship between each of these traits and this IPQ factor. The hypothesis was based, however, on the negative relationship found in Study 3, between Conscientiousness and preference for an Artistic partner. Within Study 3, the Big Five trait of Emotional Stability also correlated negatively with the IPQ Artistic factor. It is known that primary psychopathy is associated with high emotional stability, therefore so it could be that this Big Five trait plays a stronger role in determining preference for an Artistic partner, than does Conscientiousness. Indeed, Tables 4.4 and 4.5 show there is a slightly stronger correlation between Big Five Emotional Stability and Artistic, than between Conscientiousness and this factor; although the difference is extremely small, it may indicate that further investigation would be useful. Alternatively, Study 3 found a negative correlation at the factor level between preference for someone Artistic and preference for someone Successful. Given the importance of status and achievement to Machiavellian and subclinically psychopathic people, it could be making an implicit assumption that one cannot be both Artistic and Successful. Overall, these findings offer a notable addition to the literature as they begin to explain the relative importance of different traits on a unique area of preference.

As predicted, both Machiavellian and psychopathic types dislike Caring partners. Both of these personality types are associated with difficulties in identifying

and empathising with the feelings of others (Paulhus & Williams, 2002; Wastell & Booth, 2003). It seems likely, therefore, that in considering a potential partner in the abstract, they simply do not value ability to care in and of itself; i.e., rather than being aware of the impact their own personalities may have on others in whom this is manifested. This result contrasts with the finding that both Dark Triad types seek a less Balanced partner (as defined by this IPQ factor), supporting the hypothesis that they both want to ensure they can exert a controlling influence over those close to them. Taken together, these findings provide useful new knowledge about how preference domains may be conceptualised and, more specifically, the values and behaviours associated with these domains.

As predicted, both traits predicted a preference for a partner who looks good (Image-conscious) and who is defined in accordance with the Successful factor, reflecting the importance placed on these values (and associated behaviours), as well as the potential benefits these can have in terms of reflected glory (Cialdini & Richardson, 1980; Lockwood & Pinckus, 2014). While both personality types sought a Successful partner, notably - when asked explicitly about an ideal partner's preferred income and education levels - no significant relationship was found between these responses and Machiavellianism nor subclinical psychopathy scores; this could be because the IPQ domain Successful is multi-faceted, defining success more broadly than finance and qualification. Consequently, it may be a truer reflection of the values associated with success and a more accurate indicator of how success is understood to people with the dark traits of Machiavellianism and psychopathy. Items in this factor include, for example: "is very driven"; "has good career prospects"; and "would love to make lots of money" – all indicators of a person's guiding principles or disposition, rather than of actual financial or educational attainment. It could also

be that the reflected glory principle is not such a strong explanatory theory here: given the preference for short-term mating among subclinically dark populations, that people with these traits may not intend to become genuinely close to a romantic partner over the long-term. Consistent with research indicating that upward appraisals of others have more positive impact when social and psychological bonds are strong (Tesser, 1988) - and can impact negatively in other circumstances (for review, see: Wood, 1989) - there would be less reflected benefit.

Interestingly, while an Image-conscious partner was preferred by both dark types, preference for athleticism did not correlate positively with Machiavellianism or overall psychopathy; this could be because the Athletic IPQ factor relates not just to physical fitness and attractiveness, but also to health and wellbeing, (e.g., items specify “is healthy” and “smokes”) and to behaviours that indicate a broader interest in athletic pursuits (e.g., items such as “watches live sports events regularly” and “enjoys being outdoors”).

Finally, both Machiavellianism and subclinical psychopathy predicts preference for a Sociable partner, indicating that, as extraverts themselves, they want someone who would feel equally comfortable – or perhaps someone who would not be too needy or embarrass them - in social situations.

Contrary to the predictions made, High Machs are no more demanding than others; this would fit with the evidence that Machiavellian types can be more flexible in relationship-focused interactions, such that they will adapt their (negative) short-term negative behaviours if there is benefit to their longer-term goal in doing so (Jones & De Roos, 2017). It could be that the particularly unusual context in which this sample was selected (i.e., from applications to appear on a TV show) has had an impact on level of expressed demand; this would also be supported by research

indicating that High Machs can have low levels of agency over their manipulative behaviours (Wastell & Booth, 2003).

Overall, dark traits do explain additional variance in partner preference. The IPQ tool still adds more and, in doing so, the present study helps demonstrate its novel contribution to the literature and value for use in future research into romantic partner selection. The unexplained variance could reflect the conceptual distinction between traits and values (Olver & Mooradian, 2003). Measuring Big Five and Dark Triad traits enables us to understand a person's propensity to certain positive and negative behaviours; however, this theoretical framework is not comprehensive in its explanation of human psychology (Pervin, 1994), as traits can themselves be both antecedents and/or consequences of other factors (A. H. Buss, 1989). The IPQ adds to our understanding of traits, in that it seeks to explore the covert assumptions and preferences that predict certain behaviours, some of which correlate to trait domains but some of which may not.

4.4.2. What impact do Machiavellianism and Psychopathy have on self-rated eligibility and relationship length? Self-rated eligibility correlated negatively to both Machiavellianism and subclinical psychopathy in this sample. Taken in conjunction with a preference for a less Caring, less Balanced, more Sociable partner, this could indicate some level of self-awareness in people with these traits. It is also consistent with the wealth of evidence, highlighted earlier in this chapter, supporting the similarity principle of attraction among these groups. Relationship length also correlated negatively to both psychopathy and Machiavellianism, as predicted; however, correlations were small.

4.4.3. Limitations. As was the case with studies reported in Chapters 2 and 3, the present research is limited by the fact that the context in which it was conducted is

very specific; generalisability may, therefore, be limited. Compared to norm groups, aged 21-30 (Gosling et al., 2014), both male and female participants in the present study scored significantly more highly on all Big Five variables. The Machiavellianism scores of participants in this sample ($M=87.69$; $SD=12.17$) were significantly higher than the population norm (60); $t(2771) = 119.79$, $p=.000$. Participants may have been modifying their responses to improve their chances of selection; this is particularly likely for those scoring highly on Machiavellianism and psychopathy, given the propensity of those with these traits towards self-serving behaviour.

This study asked people to consider their eligibility in general terms. Given the hypothesis that mating behaviour can be classified into two broad domains – short-term and long-term (Holtzman & Strube, 2013) – and the evidence presented in the introduction that the two dark traits of interest apply predominantly short-term mating strategies, it would be useful to consider both eligibility and expressed preference in different hypothetical contexts, as well as in actual relationship contexts. Finally, the sample is limited by its bias towards heterosexual respondents, as discussed in Chapter 3.

4.4.4. Recommendations for further study. Future studies should also seek to explore the currently unexplained variance in partner preference, as measured by the IPQ, by studying its correlation with other trait classifications demonstrated to relate to Big Five and Dark Triad models. While this study provided more information on preference for a Successful partner, as with that reported in Chapter 3, it indicated further exploration of preference for specific income and education status. In addition, and building on the implications for future research identified in Chapter 3, it could be that an analysis of Machiavellianism and subclinical psychopathy scores

in the context of qualitatively expressed preference could help understand how the notion of 'ideal partner' is being conceptualised among those with these traits. Such a study could usefully seek to identify whether short-term or long-term strategies are being employed. Finally, future studies should look at the IPQ's relevance in established partnerships, to understand how hypothetically expressed preference in the abstract translates to actual mate choice.

STUDY 5

4.5. Introduction

4.5.1. Defining EI. Emotional intelligence (EI) describes the ability to appraise, understand, process and manage one's own emotions and those of others (Mayer, Caruso, & Salovey, 1999; Mayer, Salovey, Caruso, & Sitarenios, 2001; Salovey & Mayer, 1989). It is well-established to play an important role in determining relationship outcomes (for introduction, see: Chapter 1, section 1.4.1). There has been much interest in the validity, relevance and applicability of EI over recent years (for review, see: Jensen, Kohn, Rilea, Hannon, & Howells, 2007). EI is conceptualised as two distinct constructs: *trait EI*, describing subjectively-reported emotional self-efficacy (Petrides et al., 2016); and *ability EI*, “emotional-related cognitive ability measured via performance-based tests”, (Petrides, Pita, & Kokkinaki, 2007). Largely uncorrelated to ability EI (Petrides et al., 2016), trait EI is a more meaningful measure on which to focus, given the conceptual problems associated with objectively assessing emotional competence (Petrides, 2009) and the accuracy with which people can appraise their own EI (Petrides & Furnham, 2000).

4.5.2. EI and Big Five traits. While correlated with higher-order personality factors (Siegling, Furnham, & Petrides, 2015), trait EI is a multi-dimensional, lower-level personality domain, demonstrating predictive validity above and beyond higher-level traits (Andrei, Mancini, Baldaro, Trombini, & Agnoli, 2015; Andrei, Siegling, Aloe, Baldaro, & Petrides, 2016; Petrides et al., 2016, 2007; Siegling et al., 2015). Integrating various dimensions of affect, EI is a comprehensive factor located outside of the cognitive ability domain (Petrides et al., 2007; Siegling et al., 2015). It encompasses: adaptability; emotion regulation; social competence; assertiveness; emotion appraisal (self and others); emotion expression; emotion management (of

others); (low) impulsiveness; relationship skills; self-esteem; self-motivation; stress management; trait empathy; trait happiness; and trait optimism (Petrides & Furnham, 2001, Table 1).

EI correlates to, while explaining more than, the Big Five model of personality (Pérez-González & Sanchez-Ruiz, 2014; Petrides, Furnham, & Mavrevli, 2008; Petrides et al., 2007): in terms of the Big Five domains, there is a strong negative association between EI and Neuroticism, and a strong positive association with Agreeableness. EI correlates positively but less strongly with Openness, Conscientiousness and Extraversion (Saklofske, Austin, & Minski, 2003; Vernon et al., 2008).

Global self-report trait-EI scores typically do not vary by gender (Arteche, Chamorro-Premuzic, Furnham, & Crump, 2008; Siegling et al., 2015; Siegling, Saklofske, Vesely, & Nordstokke, 2012). There is some evidence that men appraise their own EI more highly than women do, but this is likely to be attributable to male self-enhancement, different levels of male and female self-enhancement and/or female self-derogation (Petrides & Furnham, 2000). Results vary between genders at the facet level, with women scoring more highly on sociability and emotionality, and men scoring more highly on adaptability and emotion regulation (Arteche et al., 2008; Siegling et al., 2015, 2012)

4.5.3. EI, Machiavellianism and subclinical psychopathy. The importance of studying emotional intelligence in respect of Dark Triad traits is well-established (e.g. Jauk, Freudenthaler, & Neubauer, 2016; Petrides et al., 2011). EI encompasses both inter-personal and intra-personal competences (Siegling et al., 2012). It is, therefore, highly relevant both to Machiavellianism and subclinical psychopathy – the dark traits on which this chapter focuses - given that both of these traits are defined in

terms of their behaviours and attitudes towards others. Trait-EI itself can also be maladaptive, with high scores resulting in negative outcomes towards the self, e.g. psychological ill-health, and others, e.g. manipulative behaviour (Austin, Saklofske, Smith, & Tohver, 2014; S. K. Davis & Nichols, 2016).

There is some evidence suggesting that High Machs can score highly on EI measures (Bacon & Regan, 2016; Jauk et al., 2016); this has been explained in terms of indirect - rather than causal - links between the two (S. K. Davis & Nichols, 2016). Higher emotional regulation could exacerbate Machiavellianism, for example, such that those with high EI may be more discerning about when and how they operationalise their manipulative tendencies (Côté, DeCelles, McCarthy, Van Kleef, & Hideg, 2011; O'Connor & Athota, 2013). Alternatively, High Machs could simply be better able to fake positive EI test scores (S. K. Davis & Nichols, 2016); or, may be high in emotional competence, but low in Agreeableness - this mediates the relationship between EI and Machiavellianism (O'Connor & Athota, 2013). There is also emerging evidence indicating that High Machs are able to shift attention flexibly across emotional stimuli as a way of regulating their own behavioural response (Deak et al., 2017).

Overall, however, the weight of research supports a negative relationship between Machiavellianism and EI. Although social competence forms one aspect of EI and Machiavellianism has been defined as a form of social intelligence (R. W. Byrne & Whiten, 1988), High Machs are typically low in EI (Austin, Farrelly, Black, & Moore, 2007; Barlow, Qualter, & Stylianou, 2010; Jauk et al., 2016; Malhotra, 2016). This finding has been attributed to impaired emotion processing abilities, as illustrated by the association between Machiavellianism and positive affect in the face of sad stimuli, and negative affect in the face of neutral stimuli (Ali et al., 2009).

Conversely, the moderating role of Agreeableness renders those high in EI more likely to be low-Machs (O'Connor & Athota, 2013).

Trait-EI has emerged as an excellent candidate for study of psychopathy, given that psychopathy is manifested in antisocial behaviour, despite high cognitive function (for summary, see Malterer, Glass, & Newman, 2008). As with Machiavellianism, this dark trait has been attributed to impaired emotion processing (Ali et al., 2009; Lykken, 1995; Malterer et al., 2008). In clinical populations, while there is some indication of no overall deficit in EI among those with high psychopathy scores (Copestake, Gray, & Snowden, 2013), there are notable differences at the facet level. Primary psychopathy has been shown to predict a lack of attention to emotional cues in others, while secondary psychopathy is shown to impair (own) mood management (Malterer et al., 2008). Research with community populations has found a negative relationship between EI and psychopathy that is applicable across trait-EI facets in both women and men (Jauk et al., 2016; Petrides et al., 2011).

4.5.4. EI, romantic relationships and preference. High trait-EI has been associated with positive social and personal relationships (Lopes et al., 2003). More specifically, those high in EI experience greater relationship satisfaction (Malouff et al., 2014; Schutte et al., 2001) and have closer, more affectionate and cooperative personal relationships (Schutte et al., 2001). Relationship satisfaction has been found to correlate to the ability to manage emotions, which explains this in part (Lopes et al., 2003). In addition, there is evidence of assortative mating in respect of EI (Śmieja & Stolarski, 2016). Couples self-rate relationship satisfaction more highly when EI is perceived as equivalent, with actor effects being the only significant predictor in this regard (L. Smith, Heaven, & Ciarrochi, 2008); this is consistent with research showing that relationships are least satisfactory when both partners are low on emotional intelligence, but that where couples have equally high EI - this did not predict higher satisfaction (Brackett, Warner, & Bosco, 2005).

Most of the literature on EI in romantic relationships focuses on outcomes in established partnerships. Less is known about the role played by emotional intelligence when considering an ideal partner in the abstract, or at the partner selection stage. There is a small amount of evidence that being competent at appraising the emotions of others elicits a positive response which, in turn, can contribute to romantic attraction within a dating context (Berrios, Totterdell, & Niven, 2015); this is understandable and fits with the evidence that more emotionally intelligent people are also more agreeable (in Big Five terms). People consider it important to keep others happy, which relies on an ability to identify and understand what will achieve this (Glenn Geher & Scott Barry Kaufman, 2013). Chapter 3 found that Agreeableness predicted preference for a partner who, as defined by the IPQ factors, is Caring, but not Sociable. It follows that people with high EI will also seek

this ideal partner profile and that these people are more likely to be low-Machs (based on the moderating role of Agreeableness described earlier). The established (negative) association between EI and Neuroticism - in the context of Study 3's findings - indicates that those high in EI will seek a partner who is highly Image-conscious, Athletic and Successful - but not Artistic. Study 4 found that the same ideal partner profile was sought by people high in subclinical psychopathy. High Machs sought a partner who was Image-conscious and Successful, yet there was no preference for Athletic characteristics. It will be important, therefore, for the present study to explore the role played by dark traits in determining partner preference in the context of EI.

4.5.5. Rationale for the present study. There is a gap in the literature on relationship between EI and the two Dark Triad traits of Machiavellianism and psychopathy, within the context of relationship psychology. Previous study of the IPQ has identified intra-personal competence as a distinct factor (Balanced), correlating to the Big Five trait of Emotional Stability, as well as to the dark triad traits of Machiavellianism and subclinical psychopathy. To understand further the extent to which the IPQ builds on, rather than replicates, that which is measured by other models, it is important to understand its relationship with trait-EI. In addition, as identified in the first study in this chapter, there is a paucity of evidence about partner preference among those with Machiavellian and subclinically psychopathic personalities. Accordingly, even less is known about the role played by emotional intelligence within this process, yet this is a fundamentally important trait in terms of relationship formation, maintenance and outcomes. This study seeks to address these gaps and, in doing so, provide an original contribution to the literature.

4.5.6. Hypotheses

- H1. Replicating other studies, trait-EI will correlate:
- H1a. Strongly and positively with Agreeableness and Emotional Stability;
 - H1b. Strongly and negatively with Machiavellianism and Psychopathy;
 - H1c. Positively and weakly with Openness, Conscientiousness and Extraversion.
- H2. Building on the established relationships with Big Five domains, and findings of Study 3, trait-EI will correlate:
- H2a. Negatively to preference for an Artistic partner;
 - H2b. Positively to preference for a Caring partner;
 - H2c. Positively to preference for a Balanced partner;
 - H2d. Negatively to preference for a Sociable partner;
 - H2e. Positively to preference for an Athletic partner;
 - H2f. Positively to preference for an Image-conscious partner;
 - H2g. Negatively to preference for a Successful partner;
- H3. Trait-EI will predict participants' subjectively-rated eligibility and length of longest relationship such that those with higher emotional intelligence will be more eligible and have had longer relationships.
- H4. Those high in trait-EI will be less demanding than those low in trait-EI, on the basis that they can flex their emotional style to accommodate difference in others.

- H5. Trait-EI will explain a small amount of variance in IPQ after accounting for demographics and personality factors.
- H6. Trait-EI will explain the relationship between gender/sexuality and overall level of demand for attributes in an ideal partner.

4.6. Method

4.6.1. Participants and procedure. The study sample is as reported in Chapter 3. The present study includes additional measures and reports novel analyses.

4.6.2. Measures.

Demographic data was obtained for all participants, as per Chapter 3.

Subjectively-rated eligibility was measured as per Chapter 3.

The **Mach-IV Test of Machiavellianism** (Christie, 1970a) was used, as per Chapter 2 (Study 1).

The **Levenson Self-report Psychopathy scale** (Levenson et al., 1995) – as per Chapter 2 (Study 1).

The **refined Ideal Partner Questionnaire** was used, as per Chapter 3.

The **short-form Trait Emotional Intelligence Questionnaire (TEIQue-SF)** – The TEIQue (Petrides, 2009) is one of the most widely used scientific measures of EI (Siegling et al., 2015), demonstrating good reliability, test-retest validity, and cross-cultural validity (Freudenthaler, Neubauer, Gabler, Scherl, & Rindermann, 2008; Petrides, 2009; Petrides et al., 2010). The short-form version comprises 30 items – two from each of the 15 facets of TEIQue – providing an efficient way of scoring global trait-EI (Petrides & Furnham, 2006).

4.7. Results

4.7.1. Descriptive statistics. Table 4.1 (within **Study 4** in this chapter) shows the possible and observed ranges, mean scores and standard deviations for ideal partner characteristics, Big Five and dark personality traits and eligibility. Table 4.8 provides the descriptive statistics for trait-EI.

Table 4.8.

Descriptive Statistics for Trait-EI

Variable	N	Range	Observed	M	SD
Trait-EI	2754	30-210	58-195	148.12	18.15

4.7.2. Correlation analysis: Personality and trait-EI. Firstly, the relationships between Big Five personality traits, Machiavellianism, psychopathy and trait-EI were tested. Table 4.9 shows two-tailed Pearson correlations for all pairs.

Table 4.9.

Bivariate Pearson Correlation Coefficients: Trait-EI and Personality

Measure	Trait-EI
Extraversion	.40**
Agreeableness	.34**
Conscientiousness	.35**
Emotional stability	.50**
Openness	.25**
Machiavellianism	-.35**
Primary psychopathy	-.27**
Secondary psychopathy	-.55**
Total psychopathy	-.45**

*Note: ** $p < .01$ Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.*

Of the nine possible correlations, all were significant at $p < .01$. In terms of Big Five traits, trait-EI correlated: strongly and positively with Emotional Stability; moderately and positively with Extraversion, Agreeableness and Conscientiousness; weakly and positively with Openness. Trait-EI correlated negatively with psychopathy, as predicted, but the relationship was weak for primary psychopathy and strong for secondary psychopathy. Trait-EI correlated moderately and negatively with overall Psychopathy and Machiavellianism. Therefore, H1a, H1b and H1c were all partially supported.

4.7.3. Correlation analysis: Ideal partner preference and trait-EI. Next, the relationships between trait-EI and IPQ variables were tested. Table 4.10 shows two-tailed Pearson correlations for all pairs.

Table 4.10.

Bivariate Pearson Correlation Coefficients: Trait-EI and IPQ

Measure	Trait-EI
Artistic	-.01
Caring	.08**
Balanced	.09**
Sociable	-.01
Athletic	.09**
Image-conscious	-.03
Successful	.09**

*Note: **p < .01. Values in **bold** represent correlations between personality factors and IPQ factors significant at p < .01.*

The relationship between trait-EI and preference for an Artistic, Sociable or Image-conscious partner was weak and non-significant in each case; H2a, H2d and H2f were, therefore, rejected. The relationship between trait-EI and preference for a Caring, Balanced and Athletic partner was weak and positive in each case; hence, H2b, H2c and H2e were supported. A weak positive correlation was found between trait-EI and preference for a Successful partner; therefore, H2g was rejected.

4.7.4. Correlation analysis: Trait-EI, subjectively-rated eligibility and relationship length. Two-tailed Spearman correlations were conducted to test the relationships between trait-EI: subjectively-rated eligibility and length of longest relationship were tested. Those higher in trait-EI were found to be more eligible

($Rho=.39$, $p<.01$) and had also been in longer relationships ($Rho=.14$, $p<.01$); H3 was supported.

4.7.5. Independent samples t-test and analysis of variance: Trait-EI and ideal partner preference. Firstly, the relationship between trait-EI and overall level of demand for specific characteristics in a partner was tested. A two-tailed Pearson correlation found a significant, positive relationship at the ($r=.12$, $p<.01$). Next, an independent samples t-test was conducted to compare the overall level of demand for IPQ characteristics in those with above average EI (≥ 148) to those with lower than average EI (<148). A significant difference ($p<.01$) was found between the demandingness scores of those with high trait-EI ($M=.13$, $SD=1.85$) and those with low trait-EI ($M=-.19$, $SD=1.95$); $t(2752)=-4.34$, $p=.04$. Finally, a one-way between-subjects ANOVA was used to test the specific ideal partner preferences of those with above average EI (≥ 148), compared to those with lower than average EI (<148); the IPQ factor means are presented in Table 4.11.

Table 4.11.

IPQ Scale Factor Means for High Trait-EI (HEI) Compared to Low Trait-EI (LEI)

IPQ domain	<i>n</i>	HEI	LEI	HEI:LEI comparisons ¹
Artistic	2754	.03	.04	n.s.
Caring	2754	-.02	-.08	HEI>LEI
Balanced	2754	-.00	-.09	HEI>>LEI
Sociable	2754	-.01	.02	n.s.
Athletic	2754	.06	-.05	HEI>>LEI
Image-conscious	2754	.00	.04	n.s.
Successful	2754	.07	-.07	HEI>>LEI

Note: ¹ Correlations compared using ANOVA (greater than at the $p<.01$ level (>>); $p<.05$ level (>) (2 tailed)

The results indicate that it is more important to those high in trait-EI than those low in trait-EI that their partners are Caring ($F(1, 2754)=5.32, p=.02$), Balanced ($F(1, 2754)=8.08, p=.00$), Athletic ($F(1, 2754)=13.61, p=.00$) and Successful ($F(1, 2754)=17.36, p=.00$). There is no significant difference between the two groups in terms of preference for a partner who is Artistic ($F(1, 2754)=.12, p=.73$), Sociable ($F(1, 2754)=1.18, p=.28$) and Image-Conscious ($F(1,2754)=1.28, p=.26$). As those with high trait-EI being more demanding overall than those with low trait-EI, and more demanding in respect of specific IPQ factors. In summary, H4 was rejected.

4.7.6. Multiple regression: Demographic factors, personality traits and

IPQ variables. For consistency with, and to build upon Studies 3 and 4, seven forced-entry multiple regressions were performed to determine the extent to which trait-EI explained expressed preference in each of the revised ideal partner domains - over and above demographic factors and personality characteristics (Big Five, psychopathy and Machiavellianism). These results are presented in Tables 4.12, 4.13 and 4.14.

Table 4.12

*Multiple Regression Model for IPQ Factors and Demographics (Model 1):
Standardised Weights and R Square*

IPQ factors ¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Beta weights	Age	.18**	.21**	.22**	-.28**	-.12**	-.25**	-.18**
	Gender	-.18**	.17**	.14**	-.03	.07**	-.28**	.31**
	Sexuality	.07**	.01	-.01	-.05**	-.10**	-.05	.02**
	Educ.	.10**	.02	-.03	-.04*	.06**	-.08	-.00**
	Income	-.14**	-.04*	.00	.07**	.14**	.10**	.19**
	Politics	.16**	-.02	-.02	-.10**	-.03	-.12	.03**
	Ethnicity	.03	-.06**	.05**	-.15**	-.02	.02**	.13
	Religion	.18**	-.03	-.05**	-.12**	-.09**	-.08	-.03**
R2		.16	.08	.07	.15	.05	.19	.14
Adj. R2		.16	.08	.07	.15	.05	.19	.13

Notes: ** $p < .01$, * $p < .05$. ¹ Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful.

Table 4.13.

*Multiple Regression Model for IPQ Factors, Demographics and Personality
Variables (Model 2): Standardised Weights and R Square*

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 2 (demographics and personality²)								
Beta weights	Age	.16**	.08**	.10**	-.19**	-.09**	-.15**	-.09**
	Gender	-.19**	.09**	.10**	-.02	.09**	-.22**	.38**
	Sexuality	.05**	-.01	-.01	-.04*	-.08**	-.03	.05**
	Educ.	.08**	-.02	-.07**	-.01	.07**	-.04**	.02
	Income	-.09**	-.03	-.00	.04*	.10**	.06**	.14**
	Politics	.16**	-.01	-.02	-.09**	-.03	-.11**	.02
	Ethnicity	.03	-.04*	.06**	-.15**	-.03	.00	.10**
	Religion	.14**	-.04*	-.04**	-.11**	-.07**	-.07**	.00
	Extra.	-.19**	-.02	-.09	.28**	.11**	.11**	.08**
	Agree.	-.03	.16**	.12**	-.00	-.03	-.00	-.08**
	Consc.	-.03**	.04*	.13**	-.07**	.12**	.04*	.13**
	Emot.	-.10**	-.07**	-.03**	.09**	.03	.06**	.03
	Open.	.27**	-.18**	-.18	-.06**	-.04	.01	.00
	Pr.Psy.	-.13**	-.26**	-.12**	.15**	.17**	.21**	.35**
	Sec.Psy.	-.05*	-.01	-.07**	.07**	-.06*	.01	-.11**
	Mach.	.05*	-.10**	-.11**	-.00	-.07*	.03	.03
	R2	.27	.26	.23	.27	.11	.30	.29
	Adj. R2	.27	.26	.23	.27	.11	.30	.28

Notes: ¹ Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious;
² Extraversion, Agreeableness, Conscientiousness, Openness, Primary Psychopathy,
Secondary Psychopathy, Machiavellianism; ** $p < .01$, * $p < .05$.

Table 4.14.

Multiple Regression for IPQ Factors, Demographics, Personality Variables and Trait-EI (Model 3): Standardised Weights and R Square

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 3 (demographics¹, personality² and trait-EI)								
Beta weights	Age	.16**	.08**	.10**	-.20**	.09**	-.15**	-.09**
	Gender	-.19**	.09**	.10**	-.02	.09**	-.22**	.38**
	Sexuality	.05**	-.01	-.01	-.04*	-.08**	-.03**	.05
	Educ.	.08**	-.02	-.07**	-.01	.07**	-.05	.02**
	Income	-.09**	-.03	.00	.04*	.10**	.06**	.13**
	Politics	.16**	-.01	-.02	-.09**	-.03	-.12	.02**
	Ethnicity	.03	-.04*	.06**	-.15**	-.03	.00**	.10
	Religion	.14**	-.04*	-.04*	-.11**	-.07**	-.07	-.00**
	Extra.	-.19**	-.00	-.07**	.27**	.11**	.10**	.06**
	Agree.	-.03	.17**	.12**	-.00	-.03	-.00**	-.08
	Consc.	-.08**	.04*	.14**	-.07**	.12**	.04**	.12*
	Emot.	-.10**	-.06**	-.02	.09**	.04	.05	.01**
	Open.	.27**	-.17**	-.17**	-.06**	-.04	.01	-.01
	Pr.Psy.	-.13**	-.26**	-.12**	.15**	.17**	.31**	.35**
	Sec.Psy.	-.05*	-.02	-.08**	.07**	-.06*	.02**	-.09
	Mach.	.05*	-.10**	-.11**	-.00	-.07*	.03	.04
	Trait-EI	.01	-.04	-.06*	.01	-.01	.03**	.08
R2		.27	.26	.23	.27	.11	.30	.28
Adj. R2		.27	.26	.23	.27	.11	.30	.28

Notes: ¹ Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ² Extraversion, Agreeableness, Conscientiousness, Openness, Primary Psychopathy, Secondary Psychopathy, Machiavellianism; ** $p < .01$, * $p < .05$.

Trait-EI did not explain any additional variance, after accounting for demographics and personality, except for a negligible amount (<1%) in respect of the IPQ factor Successful. Scatterplots and tests for collinearity indicated that assumptions of homogeneity of variance and linearity were met for all models, and all residuals approximated a normal distribution; H5 was rejected.

4.7.7. Moderator analysis: Gender/sexuality and level of demand. An analysis of variance was conducted to test the hypothesis that trait-EI explains the relationship between gender and sexuality, as well as overall demandingness in respect of a partner. This analysis was as per that undertaken in Study 3, yet on this occasion the trait-EI was entered as a covariate; this did not reduce the primary effect that heterosexual women ($M=.09$, $SD=1.90$) are significantly more demanding than heterosexual men ($M=-.13$, $SD=1.86$). On the basis of this analysis, H6 was rejected.

4.8. Discussion

4.8.1. Are emotionally intelligent people more eligible? Those with high trait-EI rated themselves as significantly more eligible than those with low trait-EI. Previous research has found that trait-EI predicts both self-esteem (H. J. Park & Dhandra, 2017) and subjective well-being (Furnham & Christoforou, 2008; Sánchez-Álvarez, Extremera, & Fernández-Berrocal, 2016); the well-established relationships between these two variables and perceived attractiveness could help explain this finding. Self-esteem - a proxy for a range of qualities deemed desirable - could be mediating the relationship between self-rated eligibility and trait-EI (Cameron, Stinson, Hoplock, Hole, & Schellenberg, 2016; Hirschmüller, Schmukle, Krause, Back, & Egloff, 2017). The same could be the case for subjective well-being, which is positively correlated with judgments of attractiveness (Datta Gupta, Etkoff, & Jaeger, 2016). An awareness that one is perceived as attractive could lead to increased self-

confidence, which - in turn - correlates with higher trait-EI. As those with EI are better able, and more likely, to harness and make use of positive emotions (Szczygieł & Mikolajczak, 2017), there could also be a mutually reinforcing relationship between these variables.

Alternatively, high self-rated eligibility could be attributed to its relationship with the personality factors to which trait-EI also significantly correlates. Replicating previous research, the present study found that people high in trait-EI are more likely to be emotionally stable, open to experience, extraverted, agreeable and conscientious. The attractiveness of these traits in a potential, or actual partner, is well-established (for discussion, see: Chapter 1). Conversely, those low in trait-EI are likely to rate themselves as less eligible, while low trait-EI also correlated to the dark traits of psychopathic and Machiavellianism, each of which predicted low self-rated eligibility in Study 4. While participants high in trait-EI were less likely to exhibit the personality traits of psychopathy and Machiavellianism, effects were moderate rather than strong overall: trait-EI and secondary psychopathy was the only strong correlation. These results could be an artefact of measurement: recent research has indicated that current scales may over-simplify some aspects of dark traits (Muris et al., 2017). It could be that the higher-than-average level of Agreeableness in the sample population (see: Chapter 3) are moderating the impact of dark traits (after O'Connor & Athota, 2013). It could also be that the sample is atypical in some regard and, indeed, the very specific context – an application to a TV show – would make this feasible.

Overall, the results provide a more nuanced understanding of the relationship between self-rated eligibility and emotional intelligence. This is a novel addition to the literature given our use of a broad, global definition of eligibility as a romantic

partner, a relatively under-utilised approach in the literature and, in terms of the specific definition provided in the present study, a novel one.

4.8.2. What do emotionally intelligent people seek in an ideal partner?

Trait-EI did not explain any additional variance in IPQ after accounting for demographic and personality factors. Trait-EI has demonstrated incremental validity over and above personality and demographics in respect of subjective well-being (e.g. Andrei et al., 2016), but this is highly correlated in this sample to all personality factors and is well-established as being superordinate. Consistent with the results found in Studies 1-3, this finding is helpful for demonstrating that the IPQ adds to what can be gathered about ideal partner preference from personality traits alone. Results therefore strengthen support for the IPQ as a novel measure that builds on, rather than replicates, variables known to be significant in determining preference.

Looking at individual IPQ factors, it can be seen that trait-EI correlates to a preference for a Caring and Balanced partner; highly emotionally intelligent people were significantly more likely to require these characteristics in a partner than those low in trait-EI. This finding confirms previous research, which has established the importance of these traits throughout partner selection, relationship formation and romantic attachment. The relationship with the IPQ factor Athletic was also significant and positive, as was predicted. This factor contains items relating to physical indicators of health and wellbeing, and these facets have been shown to be important drivers of partner preference. These results also strengthen support for the validity of the IPQ factor domains. The correlations with Caring and Balanced indicate that, as hypothesised, the IPQ has the potential to encompass and extend existing theory rather than being limited to one particular conceptual standpoint.

Contrary to the hypotheses that trait-EI would correlate positively with the IPQ factor Artistic, no significant relationships were found. This is surprising given the established link between this factor and Openness (which correlated to trait-EI in the present study), and previous research indicating creative types have higher trait-EI (Geher, Betancourt, & Jewell, 2017; Petrides, Niven, & Mouskounti, 2006; Sanchez-Ruiz, Perez-Gonzalez, & Petrides, 2010). However, studies reported in Chapters 2 and 3 found negative correlations between the Artistic factor and Extraversion, Emotional stability and Conscientiousness. These findings could consolidate the theory that Artistic types have very specific partner preferences (see: Chapter 3). The lack of relationship between the IPQ factor Sociable and trait-EI was surprising, given previous research indicates that emotionally intelligent people have better social skills. However, such studies of social behaviour have tested the impact of emotional intelligence on social outcomes: quality of interactions (Brackett et al., 2005; Lopes et al., 2003; Schutte et al., 2001); conflict management (L. Smith et al., 2008); and social functioning (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006). Items within the IPQ factor Sociable relate to sociability (i.e., a desire to be in company, or being comfortable being the centre of attention) and it is this conceptual difference that could explain the non-significant negative relationship. A non-significant negative relationship was found between trait-EI and the Image-conscious factor; this factor relates more to extrinsic goals – appearing stylish, standing out and being admired – and it could be that, within the current context of long-term partner selection, those high in trait-EI recognise these as more superficial considerations.

Finally, contrary to the hypothesis that trait-EI would correlate negatively with the IPQ factor Successful, there was a significant positive relationship found. Trait-EI has been shown to be a significant predictor of a range of success-related variables,

including: academic achievement (Di Fabio & Palazzeschi, 2015; Perera & Digiacomio, 2015); employability (Nelis et al., 2011); job performance (Joseph, Jin, Newman, & Boyle, 2015); performance under pressure (Laborde, Lautenbach, Allen, Herbert, & Achtzehn, 2014); career-related decision making (Di Fabio & Saklofske, 2014); and engagement in work (Akhtar, Boustani, Tsivrikos, & Chamorro-Premuzic, 2015). It could, therefore, be in interpreting items within this factor that highly emotionally intelligent participants are thinking about success in broader terms – across a range of domains necessary for productive functioning in society – rather than conceptualising it as acquisitive or superficial. Again, this is an exciting finding which provides a novel contribution to existing literature, particularly expanding evolutionarily-driven conceptualisations of ‘success’.

Overall, highly emotionally intelligent people are more demanding in respect of ideal partner characteristics required, when compared to those low in trait-EI. This finding contradicted the hypothesis that being better able to adapt and more emotionally resilient means people high in trait-EI would ask less of others and, in doing so, provides a significant contribution to both the trait-EI literature and that on preference. It could be that this finding relates to the fact that people were asked about preference in the abstract. Studies finding that those high in trait-EI are more collaborative and cooperative with close partners have tested this in established relationships (Brackett et al., 2005; Schutte et al., 2001). It could be, therefore, that the hypothesis is supported in established relationships, i.e., that emotionally intelligent people are less demanding of their partners because they are aware of - and can adapt to - their needs. In the abstract, it is possible that those with more trait-EI – and therefore more understanding of effective interpersonal relationships – are more astute about the importance of finding a good match; this could relate to the fact that

emotional intelligence has been shown to moderate stress in a range of contexts (Ciarrochi, Deane, & Anderson, 2002; Karimi, Leggat, Donohue, Farrell, & Couper, 2014; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). Those higher in trait-EI are more likely to be aware of their own shortcomings and, therefore, are more acutely aware of the need to select a partner that offsets these, to militate against potential stress and conflict.

4.8.3. Are emotionally intelligent people more successful in relationships?

As predicted, highly emotionally intelligent people are more successful in relationships than those with low trait-EI, as defined by having experienced longer-lasting previous relationships. Related to this, the study reported in Chapter 3 found that relationship length was positive correlated to Conscientiousness, Agreeableness and Emotional Stability. These are all personality traits associated with relationship satisfaction and quality, and were all also correlated with trait-EI in the present study. It could, therefore, simply be that more emotionally intelligent people experience better quality relationships as a result of their pro-social personality traits, high interpersonal skills and self-awareness (Lopes et al., 2003; Malouff et al., 2014; Schutte et al., 2001). It could also be that people high in trait-EI demonstrate more commitment to establishing romantic relationships (distinct from subjectively-perceived relationship quality); studies of emotional intelligence in other contexts have found this trait to predict loyalty and commitment (Carmeli, 2003; Naderi Anari, 2012; Nikolaou & Tsaousis, 2002). This study provides some new and useful pointers for potential research on this topic.

Finally, the study reported in Chapter 3 also found a statistically significant relationship between gender/sexuality and overall demandingness - driven by heterosexual women. This study found that trait-EI did not account for this interesting

difference. Further research is needed to determine the cause which is possibly socio-cultural in nature, rather than psychologically driven.

4.8.4. Limitations. Sample limitations are as noted in Chapter 3 and relate specifically to the atypical population and context, potentially resulting in social desirability bias and/or demand characteristics. The sample is also subject to the same demographic limitations described in the previous chapter, as well as being limited by its use of a single measure of trait-EI. While this tool has good psychometric properties and is widely used, there remains considerable debate about the multifaceted nature of emotional intelligence (Joseph & Newman, 2010; Mayer, Salovey, & Caruso, 2008) and it may be worth replicating the study using different models of EI.

4.8.5. Recommendations for further study. Future studies should seek to understand how objectively-measured eligibility relates to self-rated eligibility, and to relate this to outcomes such as relationship satisfaction and quality. As discussed, it may also be useful to compare and contrast the relationship between trait-EI and demandingness as different stages of partner selection. This work could test the hypothesis that this relationship is mediated by commitment to a romantic partner. In the absence of finding an explanation for the relationship between gender/sexuality and demandingness, future studies could explore other potentially mediating variables.

4.9. Conclusions

In this chapter, the refined novel IPQ tool was used to test the relationship between dark personality traits, emotional intelligence and expressed preference. The chapter built upon Chapter 3's findings, which focused on Big Five traits and demonstrated the utility of the IPQ in conceptualising and measuring preference after

accounting for demographics and personality. Studies in this chapter focused on three well-established traits as playing a significant role in determining relationship quality, experience and outcomes: psychopathy, Machiavellianism and trait-EI. To maintain a consistent methodological approach, and for completeness, the same regression analyses were conducted as per Chapters 2 and 3. Psychopathy and Machiavellianism did indeed explain some additional variance in ideal partner preference, after controlling for Big Five factors and demographics, but trait-EI did not. This provides assurance that the IPQ tool is adding to the current understanding of partner preference, as it measures variance in preference that goes beyond individual differences in personality. In doing so, it strengthens the original contribution of the IPQ to the literature by providing more assurance of its added value, and of the validity and reliability of its factor structure.

Both studies reported in this chapter strengthened the hypothesis that preference for an Artistic partner is driven by a distinct set of personality characteristics: again, this provides an interesting and significant expansion of the previous literature on preference and warrants further exploration. Both studies also indicated the importance and differentiating nature of the IPQ factor Successful. The additional personality traits explained the most amount of variance in this factor, when compared to the other IPQ factors, in Study 4. In Study 5, there was a strong, positive relationship between this factor and emotional intelligence, thus indicating that it is interpreted broadly and positively. From this we can garner a more detailed understanding of ‘mate value’ from a novel and distinct, yet complementary, perspective to that of evolutionary psychology-driven research.

Building on these findings, the next chapter will consider whether any of the variance in IPQ can be explained by people’s attitudes to - and behaviour in - close

personal relationships. The findings will be reviewed, considering the results from this chapter, the implications for future research discussed.

CHAPTER 5: *The Relationship Between Attitudes
to Love, Romantic Beliefs, Eligibility and
Personality*

STUDY 6

5.1. Introduction

5.1.1. Defining love. The current thesis is underpinned by a concern to help people find their ideal partner more efficiently and effectively, and, in doing so, find love. As discussed in Chapter 1, section 1.1, love is a fundamental human need, essential for social functioning and personal growth (Maslow, 1943). The notion of love has permeated every aspect of human existence, and attempts to define it have been many and varied (e.g. as described by Gottschall, Nordlund, Temple, & Cohen, 2006; Oord, 2005; Sternberg & Weis, 2006). Contrary to the notion that love is a culturally-driven phenomenon (K. L. Dion & Dion, 1993), a wealth of evidence points to its universality as a basic emotion, consistently understood across cultures (H. E. Fisher, 1994a; Jankowiak & Fischer, 1992; Shaver, Morgan, & Wu, 1996). Love is an independent construct, distinct from attraction (Rubin, 1970). Attraction can lead to falling in love and there is a neural basis to this process that has evolved to further reproductive advantage (D. M. Buss, 1988; H. E. Fisher et al., 2002; H. E. Fisher, Aron, & Brown, 2006).

The theoretical conceptualisation of love is largely determined by the assumptions made about its drivers. It is attributed, for example, to the desire for self-expansion through affiliation with someone else (A. Aron & Aron, 1986; E. N. Aron & Aron, 1996). It can also be conceived as an interpersonal attitude, characterised by a predisposition to care for, depend on and be absorbed by another person (Rubin, 1970). Love is said to be founded on the notion of commitment (Hampel & Vangelisti, 2008), which denotes a conscious choice to enter into, or maintain, a close personal relationship and is purported to be a critical predictor of relationship satisfaction (M. Acker & Davis, 1992). While commitment is a component of love, it

is also thought to drive it; increased commitment facilitates feelings of love (Gonzaga, Keltner, Londahl, & Smith, 2001) and is central to theories in which love is something that endures (Hatfield & Walster, 1985).

5.1.2. Dimensions of love and personality correlates. Despite extensive scientific research, no single definition or taxonomy of love has been agreed (Berscheid & Meyers, 1996). There is, however, a consensus about love as a multi-dimensional concept, commonly described in terms of the behaviours and feelings it elicits. An analysis of the most frequently-used instruments for measuring love identified the common components as: “passionate love, closeness, ambivalence, secure attachment and practicality” (C. Hendrick & Hendrick, 1989, p784). While these are articulated differently from one model to another, the Love Styles typology provides a helpful over-arching framework (J. A. Lee, 1977): as one of the first comprehensive models, it offers a rich and appropriately complex way of understanding individual differences in emotions and behaviours in intimate personal relationships (Hatfield & Walster, 1985; C. Hendrick & Hendrick, 1986). This typology has since been widely used throughout psychological research (Heaven, Da Silva, Carey, & Holen, 2004).

The model comprises three primary love styles (*Eros*, *Ludus* and *Storge*) and three secondary styles (*Pragma*, *Mania* and *Agape*).¹⁵ Within this model, it is possible for a person to adopt multiple styles within different contexts. The first primary love style – Eros - is associated with strong emotionality and sexuality, and prioritisation of aesthetic appeal. Those adopting this style are likely to believe in immediate

¹⁵ With thanks and acknowledgement due to Emma Spencer, BSc Psychology student, Goldsmiths College, University of London for data extraction to inform this section.

attraction and connection, and are likely to be effusive and passionate towards their partner (C. Hendrick & Hendrick, 1986; J. A. Lee, 1977). Evidence about gender impacts upon preference for this style is inconsistent (see: Frazier & Esterley, 1990). An Erotic love style is positively associated with both Extraversion (Davies, 1996; Heaven et al., 2004; Lester & Philbrick, 1988) and Conscientiousness (Heaven et al., 2004; Wan, Luk, & Lai, 2000), and negatively associated with Neuroticism (Heaven et al., 2004).

Ludus is a game-playing love style. Ludus lovers typically seek maximum fun and minimum commitment; accordingly, they can see potential partners as a challenge. Those with Dark Triad personality traits are more likely to adopt a Ludic love style (Jonason & Kavanagh, 2010). Women are less likely than men to employ this style (S. S. Hendrick & Hendrick, 1995), and Ludus lovers are also more likely to have multiple partners or cheat on their partners when compared to those employing other styles (C. Hendrick & Hendrick, 1986; J. A. Lee, 1977). Ludus is positively associated with Extraversion (Davies, 1996; Lester & Philbrick, 1988) and negatively associated with both Agreeableness (Heaven et al., 2004; Wan et al., 2000) and Conscientiousness (Heaven et al., 2004).

The Storge love style is characterised by friendship, similarity and mutual respect: it grows over time and emphasises the interdependent nature of the dyad. Storge lovers seek a best friend in their partner and prioritise commitment and trust over passion. They are undemanding and forgiving of others and seek emotional stability (C. Hendrick & Hendrick, 1986; J. A. Lee, 1977). Women are more likely than men to employ this style (S. S. Hendrick & Hendrick, 1995). The Storge love style is associated with Agreeableness (Heaven et al., 2004; Wan et al., 2000).

The Pragma love style is characterised by a consciously rational and practical approach. Pragmatic lovers seek to identify a partner with whom they are more likely to be compatible, based on demography; e.g., someone with a similar education, political and socio-economic background. In this way, it is considered the “shopping list” love style (Woll, 1989, p. 481). Those employing a Pragmatic style tend to be low in emotional expression, valuing commitment and loyalty (C. Hendrick & Hendrick, 1986; J. A. Lee, 1977). Women are more likely than men to employ this style (K. K. Dion & Dion, 1993; K. L. Dion & Dion, 1972), as are those with dark personality traits (Jonason & Kavanagh, 2010). The Pragma love style is negatively associated with both Neuroticism (Davies, 1996) and Openness (Heaven et al., 2004).

Manic love is obsessive. Those employing this style experience extremes of emotion in relationship and can struggle to extrapolate their own identity from that of their partner. This style can predict maladaptive relationship behaviour, such as jealousy, anxiety and possessiveness. Those employing this style tend to be high in emotional expression and can seek commitment as a form of reassurance. Women are more likely than men to employ this style (C. Hendrick & Hendrick, 1986). The Manic love style is positively related to Neuroticism (Davies, 1996; Lester & Philbrick, 1988; Wan et al., 2000; Woll, 1989) and negatively related to both Agreeableness (Wan et al., 2000) and Conscientiousness (Heaven et al., 2004).

The Agape love style is altruistic. Agapic lovers prioritise their partner’s needs over their own and avoid discord at all costs; they can be spiritual in nature and can see commitment as sacred. The all-encompassing nature of Agapic demonstrations of love, typically selflessness and generousness, can be overwhelming for the recipient. Men are more likely to employ this love style (L.-W. Lin & Huddleston, 2005; Regan, 2016). The Agape style is associated with Agreeableness (Wan et al., 2000).

5.1.3 Romantic love. Romantic love is a distinct category, notably different from other types of love (Graham, 2011; Sprecher & Metts, 1989). This type of love is omnipresent in contemporary culture (Vannier & O'Sullivan, 2017b) and has been the focus of psychological study since the early 1900s (Spanier, 1972), although tool development did not commence until several decades later (Hatfield, Bensman, & Rapson, 2012). Romantic love has been described as a combination of passion and intimacy between two people (Sternberg, 1986). High Conscientiousness predicts propensity to experience romantic love, on the basis that this trait is associated with both passion and intimacy - for men and women (Engel, Olson, & Patrick, 2002). Passion is an intense feeling characterised by overwhelming emotion, physiological arousal and extreme negative affect when away from the object of affection (Hatfield, 1995; Hatfield & Sprecher, 1986; Hatfield & Walster, 1985). Passionate love has been demonstrated in both short- and long-term relationships (Sternberg, 1986) and is associated with relationship satisfaction (C. Hendrick & Hendrick, 1991).

Intimacy indicates feelings of closeness and attachment (Bowlby, 1969); it is pertinent to a wide variety of close personal relationships, not solely romantic dyads (Sternberg & Hojjat, 1997). Intimacy denotes reciprocal provision of emotional support, mutual understanding and valuing, and close communication founded on honest self-disclosure (Derlega, 1984; Sternberg & Grajek, 1984). Intimacy is increased through positive expression of emotion (Gottman, Coan, Carrere, & Swanson, 1998; Harker & Keltner, 2001). There is some evidence that intimacy and passion are correlated such that passion can increase or decrease as a result of significant changes to intimacy (R.F. Baumeister & Bratslavsky, 1999). Articulated differently, yet following similar principles, romantic love can be seen as a combination of attachment, caregiving and sexual desire (Shaver et al., 1988).

In addition to the notion of romantic love as a dyadic experience, it can also be understood as an attitude-driven approach to love, as per the Eros ideology described in the previous section (J. A. Lee, 1977). As discussed in Chapter 2, ideal partner characteristics describe the traits or behaviours preferred in a romantic partner. The overwhelming focus of literature on romantic ideals has been on identifying clusters of characteristics that encompass common preferences, while also illustrating individual differences (e.g., Figueredo, Sefcek, & Jones, 2006; Fletcher, Simpson, Thomas, & Giles, 1999). There has been far less study of romantic love as an ideology informing all other sought-after characteristics (Hefner & Kahn, 2014). The most prominent work on romantic ideals identified four factors of romantic belief: *Love Finds A Way*, the belief that love can overcome any obstacle; *One And Only*, the belief that each person is best matched with just one other in the world; *Idealisation*, the belief that everything about the perfect love match will be pleasing; and *Love at First Sight*, the belief that falling in love can be instantaneous (Sprecher & Metts, 1989). There was no overall correlation found between romantic beliefs and Storge, Mania or Pragma love styles, but the subscale Love at First Sight correlated positively to the Eros ideology.

There is mixed evidence concerning the impact of gender on predisposition to romanticism. Despite commonly espoused views to the contrary (J. Gray, 2004), the majority of studies have found men to be more romantic than women (Ackerman, Griskevicius, & Li, 2011), including: declaring their affections first; being less cautious about embarking on relationships; falling in love more easily; and breaking up with a partner less readily (Ackerman et al., 2011; Peplau & Gordon, 1985; Rubin, Peplau, & Hill, 1981; Sprecher & Metts, 1989). These findings have been explained predominantly in evolutionary and cultural terms. For instance, men are motivated

more by sexual function than women and use romanticism to facilitate this, whereas the cultural and biological pressure on women to find a provider and “settle down” requires them to adopt a practical approach (Frazier & Esterly, 1990; Hatkoff, T. S., & Lasswell, 1979; Kanin, Davidson, & Scheck, 1970; Rubin et al., 1981). Conflicting evidence indicates romanticism is either predicted by being female (de Roda, Martínez-Íñigo, de Paúl, & Yela, 1999; K. L. Dion & Dion, 1972) or not predicted by gender at all, with both men and women being affected equally (Fitzpatrick & Sollie, 1999; Vannier & O’Sullivan, 2017b). Further study is, therefore, warranted.

5.1.4. Love style, romanticism and eligibility. Despite evidence that romantic behaviour has no negative impact on relationships, and can even increase commitment (Ackerman et al., 2011; Spanier, 1972), there is some concern that unrealistically high romanticism is an undesirable quality. This is reported to predict a range of negative outcomes, including: increased likelihood of being a victim of dating scams (Buchanan & Whitty, 2014); jealous and controlling behaviour (Papp, Liss, Erchull, Godfrey, & Waaland-Kreutzer, 2017); a tendency to take a diagnostic approach to relationships, leading to hostility; and shorter relationships driven by interpretation of dissimilarity as an indicator the pairing is not “meant to be” (Knee, Nanayakkara, Vietor, Neighbors, & Patrick, 2001; Knee, Patrick, & Lonsbary, 2003).

The self-fulfilling nature of romantic ideation can also lead to a strengthened dyadic bond, as a result of increased satisfaction, love and trust (Murray & Holmes, 1997). In addition, romantic beliefs do not predict lower relationship satisfaction for the person who holds them; rather, it is unmet expectations, in the context of romantic beliefs, which lead to poorer outcomes (Knee et al., 2001; Vannier & O’Sullivan, 2017a, 2017b).

Overall, there is a little research on the impact of romantic beliefs on relationship outcomes (Vannier & O'Sullivan, 2017a, 2017b). Even less is known about the impact made by romantic beliefs on stated ideal partner preference in the abstract, or in early stage partner selection. This is a notable gap given that relationship initiation is an important factor in understanding dyadic perceptions of compatibility and attractiveness (Barelds & Barelds-Dijkstra, 2007). Where a couple report having experienced love at first sight, the romantic attachment forms rapidly (Barelds & Barelds-Dijkstra, 2007). However, people may be less able to accurately appraise others' mate potential early on in a relationship (Barelds & Barelds-Dijkstra, 2007). Accordingly, couples who have fallen in love at first sight tend to be less similar in personality than those who bond over a longer period of time, although there is evidence that this does not impact negatively on perceived relationship quality (A. Aron et al., 1989; Barelds & Barelds-Dijkstra, 2007).

There is only a small amount of evidence on the relationship between eligibility and love styles. The majority of the research on love styles focuses on their impact on relationship outcomes (Meeks, Hendrick, & Hendrick, 1998), rather than how they relate to a person's own mate value (as rated by themselves or others). There is some evidence concerning the indirect impact of love style on eligibility, although this is highly limited; e.g., more socially desirable men employ Manic, Ludic or Erotic love styles (and less socially desirable men are Agapic), while women are more socially desirable when they employ Agapic love style and less so when Ludic in style (Davies, 2001).

5.1.5. Rationale for the present study. To comprehensively understand ideal partner preference, it is necessary to interpret it in the context of a broader approach to love and romance. The present study addresses the relationship between the

ideologies applied to partner selection, as well as the specific characteristics desired; in doing so, it will also provide additional explanatory information about the IPQ tool as a measure of expressed preference. This study will also address gaps in the literature, namely: testing the impact of love style and romantic beliefs on stated preference; and understanding the role played by demographics in determining one's approach to love and romance. Given that the IPQ is a novel tool, this study will also strengthen its contribution to the wider literature by demonstrating how it complements and builds on existing constructs, rather than replicating them. As was the case for Studies 2-5, the present research will also offer new information about the latent constructs that underpin preference – as defined by the IPQ.

5.1.6 Hypotheses.

H1. Gender will predict romantic beliefs and love style:

H1a. Men will be more romantic than women;

H1b. Men will be more likely to demonstrate Erotic, Ludic and Agapic love styles;

H1c. Women will be more likely to demonstrate Storgic, Manic and Pragmatic love styles.

H2. Love style will relate to ideal partner preference; specifically:

H2a. Erotic love will correlate positively with preference for a Sociable, Artistic, Caring, Balanced and Image-conscious partner (given its relationship with Extraversion and Conscientiousness, which predict these preferences in Chapter 3 and the importance those with this style place on appearance, compassion and emotional sensitivity);

- H2b. Ludic love style will correlate negatively with a preference for a Caring and Balanced partner, and positively with preference for an Image-conscious and Successful partner (on the basis that these preferences were predicted by those high in Machiavellianism and subclinical psychopathy in Study 4, Chapter 4);
- H2c. Storgic love style will correlate positively with a preference for a Caring, Successful and Balanced partner, and negatively with a preference for an Artistic partner (on the basis that this style is associated with Big Five Emotional Stability and Conscientiousness which predicted these preferences in Chapter 3);
- H2d. Pragmatic love style will correlate positively to a preference for a Successful, Caring, Balanced, Image-conscious and Athletic partner, and negatively to preference for a Sociable and Artistic partner (on the basis that Neuroticism and Openness, negatively associated with Pragmatism, predicted these preferences in Chapter 3);
- H2e. Manic love style will correlate negatively to preference for a Caring, Balanced and Successful partner, and positively to preference for a Sociable partner. This is on the basis that Big Five Conscientiousness and Agreeableness predicted preference for a Caring, Successful and Balanced partner in Chapter 3;
- H2f. Agapic love style will correlate positively to a preference for Artistic, Caring and Balanced partners, and negatively to preference for Successful, Image-conscious, Sociable and Athletic partners.

- H3. Romanticism will be associated with preference for an Artistic, Caring, Balanced partner.
- H4. Love style will be associated with eligibility, such that relationship length and self-rated eligibility will correlate positively with Manic, Ludic or Erotic love styles in men, and Agapic and Ludic love styles in women.
- H5. Romantic beliefs will be associated with eligibility, such that relationship length and self-rated eligibility will correlate positively with overall romanticism.
- H6. The ideal partner profile, as tested by the refined IPQ, will be partially explained by romantic beliefs and attitudes to love after controlling for demographic factors and personality variables (on the basis that the IPQ offers a more comprehensive account of partner preference, than personality alone).

5.2 Method

5.2.1. Participants and procedure. The study sample is as reported in Chapter 3. The present study includes additional measures and reports novel analyses.

5.2.2 Measures.

Demographic data was obtained for all participants, as per Chapter 3.

Subjectively-rated eligibility was measured as per Chapter 3.

The **Mach-IV Test of Machiavellianism** (Christie, 1970a) was used, as per Chapter 2 (Study 1).

The **Levenson Self-report Psychopathy scale** (Levenson et al., 1995) was used, as per Chapter 2 (Study 1).

The **refined Ideal Partner Questionnaire** was used, as per Chapter 3.

The **Love Attitudes Scale** (LAS; Hendrick, Hendrick, & Dicke, 1998) is a 42-item questionnaire that measures love styles across six sub-scales, in accordance with Lee's typology (J. A. Lee, 1977). Participants are asked to state the extent to which they agree or disagree with each item, using a 5-point Likert scale. The instructions provide details about completion for respondents who are: in a relationship (by answering with their current partner in mind); single (by answering with their most recent partner in mind); single and with no relationship experience (by answering in the hypothetical). It has demonstrated reasonable reliability and validity (C. Hendrick & Hendrick, 1986).

The **Romantic Beliefs Scale** (Sprecher & Metts, 1989) is a 15-item scale that tests the extent to which respondents subscribe to four core elements of a romantic ideology: Love Finds A Way; One And Only; Idealisation; and Love at First Sight. Participants are asked to state the extent to which they agree or disagree with each item, using a 7-point Likert scale. It has demonstrated good reliability and validity, including across cultures (Adamczyk & Metts, 2014; Sprecher & Metts, 1989; Sprecher & Toro-Morn, 2002) and in the context of relationships initiated both online and offline (Hefner & Kahn, 2014).

5.3. Results

5.3.1. Descriptive statistics. Table 5.1 shows the possible and observed ranges, mean scores and standard deviations for Romantic Beliefs total and sub-scale scores and Love Attitudes sub-scale scores. The same figures for Big Five personality traits, Machiavellianism, non-clinical psychopathy, ideal partner characteristics and eligibility can be found in Chapter 4 (see: Table 4.1). For romantic beliefs, the highest mean score related to the Love Finds a Way sub-scale ($M=5.23$, $SD=1.02$) and the lowest to the One and Only sub-scale ($M=3.61$, $SD=1.42$). The most common attitude

to love was Eros (M=25.75, SD=5.04) and the least common was Ludus (M=14.55, SD=4.65).

Table 5.1.

Descriptive Statistics: Romantic Beliefs and Love Styles

Variable	N	Range	Observed	M	SD
Love at First Sight	2750	1-7	1-7	3.86	1.20
Love Finds a Way	2723	1-7	1-7	5.25	1.02
One and Only	2761	1-7	1-7	3.61	1.42
Idealisation	2758	1-7	1-7	4.40	1.30
Total Romantic	2654	1-7	1.40-6.80	4.48	.88
Eros	2724	7-35	7-35	25.75	5.04
Ludus	2723	7-35	7-35	14.55	4.65
Storge	2693	7-35	7-35	20.59	4.64
Pragma	2719	7-35	7-35	17.74	5.24
Mania	2722	7-35	7-35	19.79	5.22
Agape	2723	7-35	7-35	24.49	5.37

5.3.2. Analysis of variance: Gender, romantic beliefs and attitudes to love.

A one-way analysis of variance was conducted to test gender differences in romantic beliefs and attitudes to love; results are shown in Table 5.2.

Table 5.2.

Relationships Between Gender, Romantic Beliefs and Love Styles

	M (SD)		F
	Male	Female	
Love at First Sight	3.93 (1.18)	3.82 (1.21)	5.45*
Love Finds a Way	5.50 (.94)	5.10 (1.03)	104.53**
One and Only	3.86 (1.39)	3.45 (1.43)	54.90**
Idealization	4.69 (1.20)	4.40 (1.29)	87.78**
Total Rom. Beliefs	4.70 (.82)	4.34 (.88)	109.67**
Eros	26.24 (4.87)	25.45 (5.12)	15.67*
Ludus	14.99 (5.08)	14.28 (4.33)	15.27*
Storge	20.93 (4.54)	20.39 (4.70)	8.78**
Pragma	17.23 (5.30)	18.06 (5.17)	16.27**
Mania	19.34 (5.22)	20.07 (5.17)	12.67**
Agape	26.54 (4.95)	23.22 (5.22)	271.40**

Note. ** $p < .01$ and * $p < .05$. Values in **bold** represent differences significant at $p < .01$.

There were significant gender differences (men vs. women) across all domains. Firstly, results indicate that men were overall significantly more romantic than women; $F(1, 2652)=109.67, p=.00$; H1a was supported.

Men were also less likely than women to adopt a love style that is Erotic ($F(1, 2722)=15.67, p=.00$), Ludic ($F(1,2721)=15.27, p=.00$) or Agapic ($F(1,2721)=271.40, p=.00$); H1b was rejected.

For men, the most commonly adopted love style was Agape (M=26.54, SD=4.95), with Eros the second most common (M=26.24, SD=4.87) and Ludus scoring lowest (M=14.99, SD=5.08). For women, the most commonly adopted love style was Eros (M=25.45, SD=5.12), with Agape being the second most common (M=23.22, SD=5.22) and Ludus scoring lowest (M=14.28, SD=4.33). Women were more likely than men to adopt a love style that is Storgic ($F(1, 2691)=8.78, p=.00$) or Manic ($F(1,2720)=12.67, p=.00$), but men were more likely to adopt a Pragmatic love style ($F(1, 2717)=16.27, p=.00$). In summary, H1c was partially supported.

5.3.3. Correlation analysis: Love style and ideal partner preference. The relationships between love styles and IPQ factors were tested; Table 5.3 shows two-tailed Pearson correlations for all pairs.

Table 5.3.

Correlations Between Love Attitudes and IPQ Factors

Measure	Eros	Ludus	Storge	Pragma	Mania	Agape
Artistic	-.03	-.02	.02	-.11**	.89**	.01
Caring	-.05**	-.26**	.03	-.04	-.06**	.01
Balanced	-.01	-.24**	.01	.08**	-.06**	-.00
Sociable	.06**	.16**	-.00	-.04*	-.08**	.03
Athletic	.07**	.10**	-.01	.15**	-.05*	-.07**
Image-	.14**	.19**	-.09**	.05*	.01	.10**
Successful	.05*	.12**	-.07**	.29**	.03	-.12**

Note: ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between love style IPQ factors significant at $p < .01$.

Of the 42 possible correlations, 22 were significant at $p < .01$. Looking at each love style in turn it can be seen that, firstly, those adopting an Erotic love style were less likely to seek a Caring partner and were more likely to seeking an Athletic, Sociable, Image-conscious and Successful partner; H2a was partially supported.

Ludic lovers were less likely to seek a Caring, Balanced partner, and more likely to seek a Sociable, Athletic, Image-conscious and Successful partner; H2b was supported. Those with a Storgic love style were less likely to seek Image-conscious and Successful partners; H2c was rejected. Pragmatic lovers were more likely to seek Balanced, Athletic, Image-conscious, Successful partners, and were less likely to seek Artistic and Sociable partners; H2d was partially supported.

Manic lovers sought Artistic partners, but were less likely to want Caring, Balanced Sociable and Athletic partners; H2e was partially supported. Finally, Agapic lovers wanted Image-conscious partners, but did not want Athletic or Successful partners; therefore, H2f was partially supported.

5.3.4. Correlation analysis: Romantic beliefs and ideal partner

preference. The relationships between romantic beliefs and IPQ factors were tested; Table 5.4 shows two-tailed Pearson correlations for all pairs.

Table 5.4.

Correlations Between Romantic Beliefs¹ and IPQ Factors

Measure	LFS	LFW	OO	I	Total
Artistic	.06**	.02	-.02	-.07**	-.00
Caring	-.08**	-.05*	-.01	-.06**	-.07**
Balanced	-.08**	-.02	.05*	.02	-.01
Sociable	-.02	-.01	-.05*	.05**	-.01
Athletic	-.02	-.01	.02	.05**	.01
Image-conscious	.06**	.11**	.09**	.22**	.16**
Successful	.02	-.04**	.02	.06**	.01

Note: ¹ Love at First Sight, Love Will Find A Way; One And Only; Idealisation; ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$

Of the 35 possible correlations, 15 were significant at $p < .01$. Overall, total romantic beliefs correlated negatively with a preference for a Caring partner, and positively with a preference for an Image-conscious partner. Preference for an Image-conscious partner was the only IPQ factor to also correlate strongly and positively with each sub-scale of the RBS. Artistic partners are more likely to be preferred by people predisposed to believing in love at first sight, and less likely to be preferred by those who hold idealised romantic beliefs. Those who believe in love at first sight are also less likely to seek Balanced partners and Caring partners. People with a tendency to believe that love finds a way are less likely to seek Successful partners. People who typically hold idealised views of romance are less likely to seek Artistic and Caring partners and more likely to seek a Sociable, Athletic, Image-conscious and Successful partner. In summary, H3 was rejected.

5.3.5. Correlation analysis: Eligibility, relationship length, love style and romantic beliefs. Firstly, the relationships between eligibility, relationship length and love styles were tested, split by gender. Table 5.5 shows two-tailed Spearman correlations for all pairs.

Table 5.5.

Correlations Between Love Attitudes, Relationship Length and Eligibility

Measure	Relationship length		Eligibility	
	Male	Female	Male	Female
Eros	.12**	.16**	.23**	.18**
Ludus	-.06	-.10**	-.02	-.10**
Storge	-.06*	-.08**	-.05	-.06**
Pragma	-.08*	-.08**	.11**	.04
Mania	-.05	.04	.01	.05*
Agape	.08*	-.02	.16**	.01

Note. ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between love style IPQ factors significant at $p < .01$

Of the 24 possible correlations, 15 were significant at $p < .01$. An Erotic love style predicted a longer relationship, and higher self-rated eligibility for both men and women. No other love style predicted relationship length at the $p < .01$ level for men, although there were weaker negative relationships ($p < .05$) with Storge and Pragma, and weaker positive relationship with Agape. For women, Ludic, Storgic and Pragmatic love styles were negatively associated with relationship length. For men, a Pragmatic or Agapic love style predicted higher self-rated eligibility. Women

employing a Manic love style considered themselves more eligible, and those adopting Ludic or Storgic styles, less so. In summary, H3 was partially supported.

Secondly, the relationships between eligibility, relationship length and romantic beliefs were tested. Table 5.6 presents two-tailed Spearman correlations for all pairs.

Table 5.6.

Correlations Between Romantic Beliefs, Relationship Length and Eligibility

Measure	Relationship length		Eligibility	
	Male	Female	Male	Female
LFS	.04	.07**	.11**	.12**
LFW	-.03	-.04	.22**	.13**
OO	.01	-.07**	.09**	-.02
I	-.06**	-.06*	.22**	.09**
Total Romantic	.00	-.03	.23**	.12**
Beliefs				

Note: ¹ Love at First Sight, Love Will Find A Way; One And Only; Idealisation; ** $p < .01$; * $p < .05$. Values in **bold** represent correlations significant at $p < .01$

No statistically significant relationship was found between relationship length and total romantic beliefs for either men or women, although there was a negative relationship between scores on the Idealisation romantic beliefs sub-scale and relationship length for both. Eligibility correlated positively to romanticism for both men and women. All romantic belief sub-scale scores correlated positively and significantly with eligibility, for men and women, except for the One and Only sub-scale for women; H5 was partially supported.

5.3.6. Multiple regression: Demographic factors, personality traits, romantic beliefs, love style and IPQ variables. For consistency with, and to build upon Studies 3 -5, seven forced-entry multiple regressions were performed to determine the extent to which romantic beliefs and love style explained expressed preference in each of the revised ideal partner domains, over and above demographic factors and personality characteristics; results for this are shown in Tables 5.7, 5.8, 5.9 and 5.10.

Table 5.7.

Multiple Regression Model for IPQ Factors and Demographics (Model 1):

Standardised Weights and R Square

IPQ factors ¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 1 (demographics)								
Beta weights	Age	.18**	.19**	.21**	-.27**	-.11**	-.23**	-.16**
	Gender	-.17**	.17**	.14**	-.03	.06**	-.29**	.32**
	Sexuality	.08**	-.00	-.01	-.05*	-.10**	-.04*	.78
	Educ.	.10**	.03	-.03	-.05*	.06**	-.08**	-.01
	Income	-.12**	-.04	.01	.08**	.13**	.09**	.18**
	Politics	.16**	-.03	-.03	-.09**	-.03	-.11**	.17
	Ethnicity	.02	-.07**	.04*	-.15**	-.03	-.01	.12**
	Religion	.19**	-.02	-.05*	-.13**	-.11**	-.09**	-.05*
R2		.17	.08	.07	.15	.05	.19	.13
Adj. R2		.17	.07	.07	.14	.05	.18	.13

Notes: ¹ IPQ factors: Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious. ** $p < .01$, * $p < .05$.

Table 5.8.

*Multiple regression model for IPQ factors, demographics and personality variables
(Model 2): standardised weights and R square*

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 2 (demographics and personality²)								
Beta weights	Age	.16**	.06**	.09**	-.19**	-.08**	-.13**	-.07**
	Gender	-.18**	.10**	.11**	-.02	.08**	-.24**	.38**
	Sexuality	.06**	-.01	-.01	-.04*	-.08**	-.02	.05**
	Educ.	.08**	-.01	-.06**	-.01	.07**	-.05**	.01
	Income	-.07**	-.01	.01	.03	.09**	.05*	.11**
	Politics	.16**	-.01	-.02	-.09**	-.03	-.11**	.02
	Ethnicity	.03	-.04**	.05**	-.15**	-.05*	-.00	.09**
	Religion	.14**	-.03	-.03	-.11**	-.08**	-.07**	-.01
	Extra.	-.20**	-.01	-.07**	.28**	.12**	.11**	.05**
	Agree.	-.03	.16**	.11**	-.01	-.04	-.01	.06**
	Consc.	-.08**	.05*	.14**	-.08**	.14**	.04*	.11**
	Emot.	-.10**	-.04	.01	.07**	.05	.04	-.00
	Open.	.28**	-.18**	-.19**	-.07**	-.05*	-.00	-.01
	Pr.Psy.	-.13**	-.27**	-.13**	.14**	.17**	.30**	.35**
	Sec.Psy.	-.05	-.03	-.09**	.07**	-.05	.02	-.08**
	Mach.	.05	-.10**	-.11**	.01	-.07**	.02	.03
	Trait-EI	.01	-.06*	-.09**	.03	-.02	.04	.09**
	R2	.28	.26	.24	.26	.11	.29	.28
	Adj. R2	.28	.26	.24	.26	.11	.29	.27

Notes: ¹ IPQ factors: Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ² Extraversion, Agreeableness, Conscientiousness, Openness, Psychopathy, Machiavellianism, Trait-EI; ** $p < .01$, * $p < .05$.

Table 5.9.

Multiple Regression for IPQ Factors, Demographics, Personality Variables and Romantic Beliefs (Model 3): Standardised Weights and R Square

IPQ factors ¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 3 (demographics¹, personality² and romantic beliefs³)								
Beta weights	Age	.15**	.07**	.11**	-.19**	-.07**	-.13**	-.06**
	Gender	-.18**	.10**	.12**	-.03	.08**	-.23**	.39**
	Sexuality	.06**	-.01	-.01	-.04*	-.08**	-.02	.05**
	Educ.	.08**	-.01	-.06**	-.02	.07**	-.04*	.02
	Income	-.08**	-.01	.02	.04	.09**	.05*	.11**
	Politics	.16**	-.01*	-.02	-.09**	-.03	-.10**	.02
	Ethnicity	.03	-.04*	.04*	-.14**	-.05*	-.01	.09**
	Religion	.14**	-.03	-.03	-.11**	-.08**	-.07**	-.02
	Extra.	-.20**	-.00	-.07**	.28**	.12**	.11**	.05**
	Agree.	-.03	.16**	.11**	-.01	-.04	-.01	.06**
	Consc.	-.07**	.04*	.13**	-.08**	.14**	.04	-.09**
	Emot.	-.10**	-.05*	.00	.07**	.04	.04	.11
	Open.	.27**	-.17**	-.18**	-.07**	-.04*	-.00	-.01
	Pr.Psy.	-.13**	-.27**	-.14**	.14**	.16**	.28**	.33**
	Sec.Psy.	-.05*	-.03	-.08**	.07**	-.04	.03	-.08**
	Mach.	.05*	-.10**	-.10**	.00	-.06*	.04	.05*
	Trait-EI	.01	-.05	-.07*	.03	-.01	.04	.10**
	LFS	.04*	-.05*	-.05*	-.01	-.02	.03	.00
	LFW	.02	-.03	-.05*	-.03	-.05	-.04	-.04
	OO	.01	.04	.06*	-.06**	.02	.00	.05*
	I	-.05*	.01	.06**	.04	.05*	.10**	.07**
R2		.28	.27	.25	.27	.12	.30	.28
Adj. R2		.28	.26	.24	.26	.11	.30	.28

Notes: ¹ IPQ factors: Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ² Extraversion, Agreeableness, Conscientiousness, Openness, Psychopathy, Machiavellianism, Trait-EI; ³ Love at First Sight, Love Finds a Way, One and Only, Idealisation; * $p < .01$, * $p < .05$.

Table 5.10

Multiple Regression for IPQ Factors, Demographics, Personality Variables, Romantic Beliefs and Love Style (Model 4): Standardised Weights and R Square

IPQ factors ¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 4 (demographics, personality², romantic beliefs³ and love style⁴)								
Beta weights	Age	.13**	.08**	.12**	-.20**	-.07**	-.13**	-.04
	Gender	-.19**	.10**	.10**	.01	.06**	-.23**	.37**
	Sexuality	.05**	-.01	-.00	-.04	-.08**	-.02	.06**
	Educ.	.08**	-.01	-.06**	-.01	.06**	-.04*	.01
	Income	-.07**	-.01	.02	.04	.08**	.04	.10**
	Politics	.16**	-.01	-.02	-.08**	-.03	-.10**	.02
	Ethnicity	.04	-.05*	.03	-.13**	-.06**	.00	.07**
	Religion	.14**	-.02	-.03	-.11**	-.08**	-.07**	-.02
	Extra.	-.20**	-.00	-.07**	.27**	.12**	.10**	.06**
	Agree.	-.03	.15**	.11**	-.00	-.02	-.00	-.08**
	Consc.	-.07**	.04	.12**	-.06**	.14**	.04*	.09**
	Emot.	-.07**	-.05*	.01	.03	-.02	.04	-.01
	Open.	.27**	-.16**	-.17**	-.07**	-.04*	-.01	-.01
	Pr.Psy.	-.11**	-.25**	-.14**	.14**	.11**	.27**	.30**
	Sec.Psy.	-.06*	-.01	-.06*	.06	-.04	.02	-.06**
	Mach.	.04	-.08**	-.08**	-.01	-.08**	.02	.05*
	LFW	.00	-.05*	-.04	-.04	.01	-.03	.02
	OO	.00	.03	.05*	-.05*	.01	.01	.03
	I	-.02	.01	.04	.06*	.03	.10**	.03
	Eros	-.04*	-.00	.03	.03	.04*	.07**	.01
	Ludus	-.02	-.09**	-.11**	.09**	.09**	.07**	.02
	Storge	.03	.04*	-.02	.02	-.04	-.12**	-.10**
	Pragma	-.09**	.03	.11**	-.07**	.08**	-.01	.19**
	Mania	.09**	-.02	-.01	-.07**	-.03	.00	-.04*
	Agape	-.05*	.04	.00	.02	-.05	.00	.01
R2		.29	.27	.27	.28	.13	.32	.31
Adj. R2		.29	.27	.26	.27	.12	.32	.31

Notes: ¹ Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ² Extraversion, Agreeableness, Conscientiousness, Openness, Psychopathy, Machiavellianism, Trait-EI; ³ Love at First Sight, Love Finds a Way, One and Only, Idealisation; ⁴ Eros, Ludus, Storge, Mania, Pragma, Agape; ** $p < .01$, * $p < .05$.

Romantic beliefs did not explain any additional variance in preference for an Artistic, Caring, Balanced or Athletic partner - after accounting for demographics and personality. Romantic beliefs explained only a very small amount of additional variance in respect of preference for an Image-conscious and Successful partner (1% in each case). Love style explained between 1% and 3% variance in partner preference, after accounting for demographics and personality. The largest amount of variance (3%) related to preference for a Successful partner and the smallest amount of variance (1%) to preference for an Artistic, Caring, Sociable or Athletic partner. Scatterplots and tests for collinearity indicated that assumptions of homogeneity of variance and linearity were met for all models, and that all residuals approximated a normal distribution. On this basis, H6 was partially and very weakly supported.

5.4. Discussion.

5.4.1. Does gender determine romantic behaviour and attitudes to love?

The aim of this study was to understand partner preference in the context of broader approaches to love and romance. Participants in this sample were slightly more romantic overall than those in previous studies (Adamczyk & Metts, 2014; Sprecher & Metts, 1989, 1999); this could be explained, at least in part, by the context in which these data were sampled. Voluntarily applying to take part in a television show that aims to produce compatible couples implies a belief that this is possible, as well as a strong desire for this to happen. These romantic beliefs could also relate to wider social norms: the sample was taken from the UK and the ubiquitous nature of romanticism in Western society renders it a cultural norm (Seepersad, Choi, & Shin, 2008).

If looking at each romantic belief domain, previous studies have consistently found people to be most romantic in respect of the Love Finds a Way sub-scale, and

the least romantic in terms of the Love At First Sight sub-scale (Adamczyk & Metts, 2014; Sprecher & Metts, 1989, 1999). In this sample, mean scores were also highest for the Love Finds a Way beliefs, but were lowest for the One and Only sub-scale. On one hand, this is somewhat surprising, given that people were hoping to meet their ideal partner by taking part in the TV programme from which this sample was taken. On the other hand, it could indicate that participants are realistic in their approach to partner selection; rather than believing that this vehicle for finding a partner is likely to be more successful than any other, they are simply as open to the possibility they could meet a compatible person using this method as any other. This provides an interesting, novel contribution to the literature about levels of romanticism in this particular population. This is important given the shift to highly public forms of partner selection (also serving the purpose of entertainment) becoming culturally normative. It also offers a useful signpost to further areas of research.

Most hypotheses about attitudes to love were supported. For men, the most commonly adopted love style was Agape, and the second most common was Eros; for women, these two were the other way around. The broad similarities in attitudes to love may illustrate a key tenet of interpersonal theory - that there is limited difference between genders in terms of conceptualisation of love (Fehr & Broughton, 2001). It is also consistent with the highly romantic nature of the sample. This is evidenced also by the strong, positive relationships between romantic beliefs and the independent factors Eros and Agape (Sprecher & Metts, 1989). Consistent with previous research, men were more likely than women to adopt a game-playing (Ludic) love style, and this was the least commonly adopted love style among all participants. Men in this sample were more likely than women to adopt a Pragmatic love style. Again, this may be an artefact of this population, or of the specific context in which scales were

completed. Pragmatic lovers construct a “wish list” of qualities in an ideal partner, informed by a rational approach to romance and a bid to maximise the likelihood of compatibility. Participants completed the Love Attitudes Scale (LAS) as part of a battery of tests related to their application for a show in which their success is reliant on accurate and detailed specification of the qualities they want in a partner. They also completed the LAS *after* having completed the IPQ (which asks them to consider, in pragmatic terms, the specific characteristics they seek). It may be that men were more susceptible than women to cognitive bias because of either of these contextual factors. These findings provide a helpful contribution to the wider literature. While confirmatory in nature, they are drawn from a population in a very specific context – applicants to a TV-based dating show. This evidences the ongoing validity of concepts related to romantic love in a fast-changing and increasingly diverse partner selection context (for background, see: Chapter 1, section 1.3).

5.4.2. How do attitudes to love affect partner preference? This study confirmed that individual differences in attitudes to love predict ideal partner preferences, but that these do not account for all differences in preference. In this way, we learn that the IPQ tool builds on - rather than replicates - love style measures which strengthen’s the measure’s original contribution to the literature. People adopting an Erotic love style are less likely to seek Caring partners: this was a surprising finding that may, however, relate to the fact that the Eros love style focuses on demonstrating - rather than receiving - affection with no requirement for reciprocity. There was no significant relationship between Eros and the IPQ factor Artistic. As discussed in Chapters 3 and 4, this IPQ factor seems to be something of a theoretical anomaly, thus far. In this case, it correlates negatively with Emotional Stability and Conscientiousness, both Big Five traits that correlate positively with

Eros – inconsistent findings which could explain the lack of relationship. Similarly, no relationship was found between Eros and the IPQ factor Balanced. Items within this IPQ factor focus on self-management including, for example, emotion regulation, response to criticism and mood. It could be that, as Eros is predominantly other-focused (rather than self-focused), this domain resonated less with people with this love style. In terms of the relationship between Eros and IPQ factor Athletic, the items within this IPQ factor relate not only to enjoyment of physical activity but also to physical fitness. Given the Erotic lover's prioritisation of aesthetic appeal, this is likely to explain this finding. More surprising is the positive relationship between Eros and the IPQ factor Successful; however, there is a strong association between preference for success and both Extraversion and Conscientiousness, both of which also correlate with the Eros love style. These findings offer a particularly interesting contribution to the literature when juxtaposed with well-established evolutionary theory (for discussion, see: Chapter 1, section 1.2.).

The relationships between the Ludic love style and IPQ factors were as hypothesised. As Ludus is often associated with short-term mating, this is a helpful indicator that the IPQ may be useful for predicting preference not only for long-term relationships, but also for more superficial romantic encounters. This demonstrates the tool's potential to make an even wider contribution to future study in relationship science. The findings are also consistent with those of Study 4 (see: Chapter 4), which tested the relationship between the IPQ and the two most significant Dark Triad traits, subclinical psychopathy and Machiavellianism (both associated with a Ludic love style).

In terms of the Storgic love style, none of the hypothesised relationships were found. The Storge love style focuses on companionship and shared growth. Dyadic

compatibility underpins the whole IPQ model, rather than featuring explicitly in any one factor; this could explain the achieved results. In addition, people who adopted this the Storgic approach are less likely to seek a partner who is Image-conscious or Successful; this could be because these two traits are more focused on the self, whereas the Storge love style, by definition, relates to the interpersonal dynamic between a couple.

Most of the predicted correlations between IPQ and the Pragma love style were supported, although this approach did not relate to preference for a Caring partner. As Pragmatists are typically less emotionally demonstrative, these results indicate that this is something they also expect from a partner. As expected, Manic lovers were less likely to want a Caring or Balanced partner; they were, however, more likely to want Sociable partners and Artistic partners. Some items in the Sociable domain relate to a need for attention and recognition. These are also features of Manic love, so it could be that they resonated with participants who have a tendency towards this style. Manic lovers also have a weaker sense of self (C. Hendrick & Hendrick, 1986), so it may be that they feel more comfortable in larger social groups, and want a partner equally willing to socialise. Mania is one of only two love styles to correlate with preference for an Artistic partner. It could be, given items related to poetry, creativity and imagination, that Artistic types are assumed to be sensitive. If this is the case, this may explain the relationship here, given that manic lovers typically need sensitive partners (T. R. Levine, Aune, & Park, 2006).

Finally, while Agape correlated with a preference for Image-consciousness, people adopting this style did not seek Athletic or Successful partners. This finding is surprising given previous associations between Agape and intelligence (T. R. Levine et al., 2006); however, as an altruistic love style, it may be that success here is

interpreted as individualistic, which is off-putting. Agapic partners also employ a range of strategies to intensify their relationships, including spending more time with their partner and adapting their behaviour to them (T. R. Levine et al., 2006). It may be that those people who prioritise success could be less available to their partner, which is misaligned with the Agape lover's priorities. This builds on results from Studies 1-5 in respect of the IPQ Success domain by providing additional knowledge about the assumptions underpinning this concept and their impact on choice.

5.4.3. Do more romantic people want different attributes in a partner?

While there was no significant relationship between total romantic beliefs and preference for an Artistic partner, an association was found between this IPQ factor and people who believe in love at first sight; this is understandable, given the focus on both the importance of the visual aesthetic and of imagination in the Artistic domain. The relationship between believing in love at first sight and a preference for an Image-conscious partner also makes sense, given that it assumes an immediate physical attraction. Results indicate that physical attractiveness (as indicated, in part, by preference for an Image-conscious partner) underpins all types of romantic beliefs.

Unexpectedly, preference for a Caring partner was found to correlate negatively with belief in love at first sight and idealised romantic beliefs (although effects are very small). Items in this factor relate not only to considerate behaviour (e.g., "is polite", "empathises with others"), but also to being amenable to others and generous with time (e.g., "looks after other people", "makes time for people"). As these items are worded in a way that indicates indiscriminate concern, it could be interpreted that such actions would be at the cost of time or emotion dedicated to the romantic partner. This may be an idealised view of romance which centres on the attributes and experienced dynamic of the perfect dyadic relationship. Finally, people

who tend to believe in love at first sight do not want a partner who is Balanced; this could be because those with this trait may be more controlled and contained (e.g., “thinks carefully before acting or speaking”, “thinks rationally”) and, therefore, less likely to act impetuously in - or for - love.

Taken together, these results provide new knowledge about how specific manifestations of romantic beliefs impact on preference. In doing so, they offer us a more detailed understanding of the latent assumptions about behaviours and values associated with the IPQ domains.

5.4.4. Do conceptualisations of love and romance predict eligibility and relationship success? Both men and women adopting an Erotic love style considered themselves more eligible and had greater relationship success; this is consistent with previous research which has found Eros to positively correlate with relationship satisfaction (S. S. Hendrick, Hendrick, & Adler, 1988). These results therefore build confidence in the validity of asking people to self-rate eligibility in highly general terms, an under-researched area being addressed by this thesis. Both male and female Agapic lovers also considered themselves more eligible, although this style predicted relationship length only for men. Agapic love is associated with concern and care for the partner (Cramer, 2003); relationship satisfaction correlates positively with empathy, which could help explain this finding. Previous research on love styles in established partnerships found that self-scores on Agape predicts partner satisfaction (S. S. Hendrick et al., 1988). It could be, therefore, that the driver of the longer relationships reported by Agapic men in this sample was their romantic partner’s satisfaction as a result of them demonstrating this particular love style.

The Ludic love style was a negative predictor of eligibility and relationship length for women. As this style is more likely to be adopted by men, it could be that

there is a more significant negative impact when it is adopted by women, as this is less usual. Previous research has found women's Ludus scores to affect partner satisfaction (S. S. Hendrick et al., 1988); it could be that women internalise this more than men, which impacts on their self-rated eligibility. The negative relationship between the Storgic love style and relationship length could be explained by the negative association between this love style and self-esteem (Mallandain & Davies, 1994), as self-esteem is important for relationship satisfaction (S. S. Hendrick et al., 1988). Finally, the Pragma love style has been associated with dark personality traits (Jonason & Kavanagh, 2010), which could help explain the negative relationship between this style and relationship length.

The finding that both men and women who believe in love at first sight consider themselves more eligible, but that this belief predicts longer relationships only for women, is interesting and a notable new contribution to the wider literature. A highly novel trait - Emophilia - is emerging as a distinct personality predictor of readiness to fall in love, yet research has shown this to predict higher levels of relationship dissolution (more marriages, more divorces) among women only (Jones, 2015, 2017). Therefore, the finding in the present study is the opposite to what would be expected as a result of gender differences; this may warrant further exploration. Instant attraction also relies on an ability to accurately infer a wide range of characteristics about a person in a short space of time and, when this initial assessment is inaccurate, shorter relationships can ensue (Grant-Jacob, 2016). It could be that the women in this sample were less adept at making accurate judgments in this way, although it should be noted that the gender difference is small.

People who tend to hold idealised views of a romantic relationships tend to consider themselves more eligible, although this does not translate into longer

relationships. Having an idealistic view of romance predicts shorter relationship length for men and women in this sample. This echoes previous research findings: that more positive relationship outcomes come from partners believing that relationships require cultivation (i.e., having a *growth* mind-set), rather than being pre-determined to succeed or fail (i.e., having a *destiny* mind-set) (Knee et al., 2001). In confirming previous research, these results further support the use of a broad measure of eligibility as a romantic partner.

In summary, the present study has found that love styles are marginally more important in explaining partner preference than romantic beliefs. The findings provide useful indicators of the assumptions made about values, traits and behaviours in an ideal partner in the context of romantic behaviour and attitudes to love. Overall, however, ideal partner preference - as measured by the the novel IPQ measure - is determined by factors broader than these individual differences. To understand what these may be, and the relationship between preference expressed via the IPQ and articulated preference, the next chapter will study the content of qualitatively expressed preference in the same sample, as well as its relationship with the IPQ measure.

5.4.5. Limitations. As was the case with studies reported in Chapters 2, 3 and 4, the present research is limited by the fact that the context in which it was conducted is very specific, with an atypical personality profile; generalisability may, therefore, be limited. There may also be a limitation presented by the measures used. It has been argued that the LAS measures experiences of, rather than attitudes towards, love (Graham, 2011; Masuda, 2003), and that the short-form version of the scale is particularly influenced by sample characteristics (Graham & Christiansen, 2009). Furthermore, while the scale provides instructions to inform completion by people

with all types of relationship experience, it may be difficult for people who have never had a romantic partner to imagine how they would behave and feel if they had one.

CHAPTER 6: *The Relationship Between
Personality, Eligibility, Qualitatively Expressed
Preference and Preference Expressed Through the
Ideal Partner Questionnaire*

STUDY 7

6.1. Introduction

6.1.1. Linguistic analysis in psychology: Relevance and utility. Linguistics are important to the study of psychology because words are used so frequently to represent who we are, how we feel and what we think (Tausczik & Pennebaker, 2010). Word choice is also an important part of the way that people flex their interpersonal style to respond to the context and behaviours of others (Cappella, 1991, 1997). Linguistic adaptation has been demonstrated in both written and verbal contexts, and effectively establishes the basis for an interaction (Niederhoffer & Pennebaker, 2002). In this way, language is much more than an attempt to articulate cognition: it is “inherently a form of relatedness” (Gergen, 1991, p. 157).

Accordingly, it is highly relevant to relationship science and can be studied as an indicator of implicit interpersonal processes (Ireland et al., 2011). Indeed, there is strong evidence that triangulating qualitative and quantitative data on romantic partner preference and relationship behaviour is critical, given that discrepancies can occur between the two (Manning, 2014; see also: Chapter 1, section 1.3.1.2.3.).

Language is much more than simple self-expression (Sapir, 1927); it is both a type of behaviour and a result of behaviour, subject to cultural and individual norms (Young, 1990). A person’s knowledge and use of language is unique to them (Johnstone, 1996). Written and spoken language, therefore, provides information about the person who uses it. A vehicle for articulating identity, it communicates the person’s sense of self (Ivanic, 1998), also revealing details of their psychological status (Pennebaker, Mehl, & Niederhoffer, 2003). Seeking to understand people by analysing both what they intentionally communicate and their non-conscious linguistic cues dates back to Freud, Rorschach and other pioneers of psychological

study (Tausczik & Pennebaker, 2010). Purposely designed projective experimental tasks sought to unlock the secrets of the unconscious mind (Zubin, Eron, & Schumer, 1965); this work evolved into more broadly applicable approaches to linguistic appraisal (Tausczik & Pennebaker, 2010), from which content analysis emerged as one such methodology (Berelson, 1952).

Content analysis is the systematic review of text at the micro level - i.e., the words and phrases used and their relationship to each other - to identify and evaluate themes (Berelson, 1952; Carley, 1990; Krippendorff, 2004). The process involves the detailed coding of written, spoken, audio-visual or interactive media text content; it also allows for quantitative analysis of qualitative data (Krippendorff, 2004; G. W. Ryan & Bernard, 2000; Skalski, Neuendorf, Kimberley, & Cajigas, 2017). Early methods for content analysis were laborious and time-consuming (Carley, 1990). The first computer program to support psychologists in this endeavour was developed in the mid-1960s (Hartman, Stone, Dunphy, Smith, & Ogilvia, 1967; Tausczik & Pennebaker, 2010).

While early technologies undertook simple word frequency counts, contemporary platforms are more sophisticated (Carley, 1990; Krippendorff, 2004). The Linguistic Inquiry and Word Count (LIWC; Pennebaker, Booth, & Francis, 2007; Tausczik & Pennebaker, 2010) is one such program. Specific to psychological research and with good psychometric properties (Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007), the software comprises a processor and a suite of dictionaries that enable word-by-word coding of any text file against reference files organised into “psychology-relevant categories” (Tausczik & Pennebaker, 2010, p.27). It separates content words that describe what is being said, from style words illustrating how it is being said (Tausczik & Pennebaker, 2010). Computers can now

play a central role in psychological research, particularly in the area of personality assessment (Youyou, Kosinski, & Stillwell, 2015).

6.1.2. Linguistic inquiry and personality. Non-conscious linguistic cues permit the assessment of a wide range of individual difference variables, including: empathy (Litvak, Otterbacher, Ang, & Atkins, 2016); self-presentation (Bazarova, Taft, Choi, & Cosley, 2013); political persuasion (Makazhanov, Rafiei, & Waqar, 2014); racial ideology (Haskell, 1986); spirituality (Yaden et al., 2016); mental ill-health (De Choudhury & Gamon, 2013); and trauma processing (Martino, Onorato, & Freda, 2015). Linguistic inquiry also permits the analysis of mood from discursive passages of text (Mishne, 2005), as well as the detection of changes in emotional and psychological states (Cohn, Mehl, & Pennebaker, 2004; Pennebaker & Lay, 2002).

Individual differences in personality predict oral and written language use, from which personality can be inferred (Pennebaker & King, 1999). This has been evidenced consistently across both online and offline media, in studies adopting both experimental and naturalistic designs (Fast & Funder, 2008; Furnham, 1990; Gill & Oberlander, 2001; Hirsh & Peterson, 2009; G. Park et al., 2015; Yarkoni, 2010). In particular, Extraversion and Neuroticism drive significant, detectable differences in both the acquisition and content of language (Shlomo Argamon, Dhawle, Koppel, & Pennebaker, 2005; Dewaele & Furnham, 1999; Gill & Oberlander, 2001; Mairesse et al., 2007; Oberlander & Gill, 1992).

Looking at each Big Five trait in turn, Openness is negatively correlated to use of the first person and use of the present tense; people who are more open are less likely to use language that depicts them as being “in the moment” and more likely to use tentative words, such as “maybe” and “perhaps” (Pennebaker & King, 1999).

These individuals are also more likely to use high-frequency functional words (such

as articles and prepositions) rather than lower frequency, more illustrative descriptors (Yarkoni, 2010). Conscientiousness predicts lower use of discrepancy-related words (e.g., “would” and “could”) and negations (Pennebaker & King, 1999), and lower use of swear words (C. H. Lee, Kim, Seo, & Chung, 2007). Conscientious people are also more likely to use discourse markers; linguistic fillers, such as “so”, “furthermore”, “I mean” and “however” (Fraser, 1990; Laserna, Seih, & Pennebaker, 2014), although this varies by gender such that men use these more than women (Mehl, Gosling, & Pennebaker, 2006).

High Extraversion predicts use of informal, confident language and more use of adjectives, verbs, positive emotion-related words and words related to social interaction (C. H. Lee et al., 2007; Oberlander & Gill, 2006; Pennebaker & King, 1999; Yarkoni, 2010). Conversely, low Extraversion is indicated by more formal language and use of first person singular pronouns (Oberlander & Gill, 2006). Agreeable people use more positive emotion-related words and fewer negative ones; they also use more pro-social words, including first person plurals and references to family and friends (Pennebaker & King, 1999; Yarkoni, 2010). Neurotic people use shorter, more negative (and fewer positive) emotion-related words (Pennebaker & King, 1999; Yarkoni, 2010). Low Neuroticism predicts more use of adverbs (Oberlander & Gill, 2006) and commonly occurring words (Gill & Oberlander, 2001); Neurotic people also use more anger-related words (C. H. Lee et al., 2007).

Linguistic analysis is also applicable to dark personality traits. Subclinical psychopaths and high-scoring Machiavellian types (*High Machs*) are more similar to each other in language use than they are to narcissists (Sumner, Byers, Boochever, & Park, 2012). People with these traits – the two darkest of the Dark Triad – tend to: swear more; use more anger-related words; use fewer first-person plurals (“we”,

“our” etc.); and fewer words associated with positive emotions. In terms of distinct linguistic characteristics: Machiavellianism predicts: use of shorter words; more use of negation; more use of numbers; and less reference to social and affective processes. Subclinical psychopathy predicts: less use of prepositions; fewer words describing time, movement and relativity to others; less use of inclusive terms; and more use of sexual terms (Sumner et al., 2012).

6.1.3 Linguistic inquiry in relationship science.

6.1.3.1 *The importance of qualitatively expressed preference.* Digital media has revolutionised partner selection, such that use of mobile and online technology for this purpose is now accepted and widespread (Blackwell, Birnholtz, & Abbott, 2015; Hobbs et al., 2016; A. Smith & Anderson, 2015). Within this context, success relies on a person’s ability to summarise briefly and accurately who they are, who they are looking for and the sort of relationship they want, in a way that is appealing to others. This invariably needs to be done within a limited word count. Text restrictions are not necessarily problematic given that impressions can be formed, and personality inferred from very *thin slices* of information (Ambady et al., 2001; Holtgraves, 2011; Stecher & Counts, 2008a). However, in the context of a limited scope for self-expression, what is said (in the context of what is not) becomes even more important and influential (Bauman, 2003). For instance, in online dating profiles, text information (rather than images) provides the strongest indicator of a person’s trustworthiness (Toma, 2010) and is appraised separately from visual information (Brand, Bonatsos, D’Orazio, & Deshong, 2012).

People often find it difficult to know what to write, or feel concerned about how their profile will be perceived by others (Hobbs et al., 2016; Zytka, Grandhi, & Jones, 2014, 2016). Some concern is justified given the evidence that judgements

made as a result of linguistic cues can be inaccurate (Weidman, Cheng, Chisholm, & Tracy, 2015). As a result, a profile can be unhelpfully non-specific. People do not want to risk ruling out potential partners to the extent that their profiles do little to communicate the characteristics that would rule someone in. As discussed in Chapter 2, this is confounded by the fact that people often do not know themselves exactly whom or what they seek, let alone how to articulate it. In addition, people can be misguided as to the extent of self-revelation in their profile, consistent with evidence that disclosure of values-related information can seem more revealing to the actor than to the observer (Pronin et al., 2008).

6.1.3.2. Qualitative expression, partner selection and romantic attachment.

Within relationship science, linguistic analysis has been concerned largely with self-presentation online, with deception an area of particular focus (Ellison et al., 2006; Toma & Hancock, 2012). This has likely arisen because of safety concerns (particularly in the early era of online dating) and the costs associated with engaging with a person who is not who they say they are (Buchanan & Whitty, 2014; Al Cooper, Delmonico, & Burg, 2000; Couch & Liamputtong, 2007; Magdy, Elkhatib, Tyson, Joglekar, & Sastry, 2017; Obada-Obieh, Chiasson, & Somayaji, 2017; Vandeweerd, Myers, Coulter, Yalcin, & Corvin, 2016).

In addition to deception, studies have addressed how concepts of identity and lifestyle are communicated, highlighting notable gender and age effects. Men's self-descriptions are typically shorter than women's, and text written by people under-30 and over-50 is typically shorter than that in profiles of people between the ages of 30 and 50 (Fiore et al., 2010). Women's profiles typically reference home, sex, positive mood and emotion more so than men's, which contained more reference to their work (Fiore et al., 2010). Older people's self-descriptions include more words related to

health and emotion than those of younger adults, which are more individualistic and achievement-focused in nature (E. M. Davis & Fingerman, 2016). Content analysis research of dating profiles has focused almost universally on qualitative expressions of self-concept, unlike the wider literature that seeks to separate how people describe themselves from how they describe what they want in others. For example, qualitatively expressed partner preference in the abstract was the foundation of the Ideal Standards Model (ISM; Fletcher et al., 1999); preferences measured by this model become more significant the more longer term the relationship sought (Fletcher et al., 2004)

At the relationship initiation stage, consistent with the similarity hypothesis of attraction (for discussion, see: Chapter 2), non-conscious use of similar functional words and *language style matching*, (LSM, Niederhoffer & Pennebaker, 2002) can predict both interest and relationship stability (Ireland et al., 2011). LSM in established relationships, however, can exacerbate stress by emphasising the negative components of difficult interpersonal interactions (Bowen, Winczewski, & Collins, 2016). Written narrative expression of intimacy and emotion is also associated with relationship stability and positive affect in established couples (D. M. Frost, 2013; Slatcher & Pennebaker, 2006). For example, in relationships initiated online, couples' "success story" narratives include significant credit given to the platform itself (Mascaro et al., 2012). Finally, when describing the dissolution of a romantic relationship, people use the present tense more (Boals & Klein, 2005), consistent with previous studies of stress-related recall (Pillemer, Desrochers, & Ebanks, 1998); they also use more negative emotion-related and cognitive words, indicating a search for meaning (Boals & Klein, 2005).

In summary, the bulk of the linguistic study in romantic partnership contexts has focused on self-presentation at the initiation stage, and linguistic processes and their impact at the established relationship and relationship termination stage. Qualitatively expressed preference in contemporary dating contexts remains unaddressed. As the original ISM study (Fletcher et al., 1999) was conducted at a time of comparatively low online dating take-up, the notion of defining and articulating ideal partner preference both qualitatively and succinctly was not yet embedded as a social norm in the way it is now. It is useful, therefore, to re-visit this in the current context. There is also a paucity of evidence about the relationship between qualitatively expressed preference and other individual difference characteristics, such as romantic beliefs and attitudes to love.

6.1.4. Rationale for the present study. In order to comprehensively understand how people approach partner selection, it is essential to understand the different ways in which ideal partner preference is communicated. The present study concerns qualitative expressions of sought-after characteristics, where there is currently a significant gap in the literature. In addressing this, it will also build on results from the study presented in Chapter 3, which showed that overall demandingness varies by gender and sexuality when measured quantitatively. The study will provide new evidence about the relationship between quantitative and qualitatively expressed preferences, testing this in a contemporary partner selection setting by using a novel, validated measure, the IPQ. Finally, in achieving these aims, the study will reinforce the IPQ's potential contribution to the wider literature by further demonstrating the validity and usefulness of the identified domains. This will be achieved by testing their relationship and congruence with qualitative articulated preference.

6.1.5. Hypotheses.

- H1. Concepts articulated through qualitatively expressed preference will correlate to preference, as measured by the IPQ. This will also be consistent with personality correlates of IPQ factor correlations (as per Chapters 3 and 4), as follows:
- H1a Preference for an Artistic partner will correlate positively to use of tentative words and words coded as relating to *Perceptual Process*, and it will negatively correlate to the use of *Positive Emotion* words;
 - H1b Preference for a Caring partner will correlate to use of Positive Emotion words, and, within the *Personal Concerns* dimension, words coded as being related to family, home and social concerns;
 - H1c Preference for a Balanced partner will correlate negatively to use of tentative words and positively to use of words indicating certainty;
 - H1d Preference for a Sociable partner will correlate to use of adjectives and verbs, and it will correlate negatively to Positive Emotion words;
 - H1e Preference for an Athletic partner will correlate to use of verbs, *Drive*-related words (i.e. those pertaining to achievement, reward and power) and Positive Emotion words, and it will correlate to the use of *Biological Process* words;
 - H1f Preference for a Successful partner will correlate to the use of words coded to the Drive category and within the *Personal Concerns* dimension, words coded as being related to money. It will also correlate to use of adjectives and verbs;

H1g Preference for an Image-conscious partner will correlate to use of Drive- and Perceptual Process-related words.

H2. Qualitatively expressed preference will help to explain currently unexplained variance in preference as measured by the IPQ.

6.2. Method

6.2.1. Participants and procedure. The study sample is as reported in Chapter 3. The present study includes additional measures and reports novel analyses.

6.2.2. Measures.

Demographic data was obtained for all participants, as per Chapter 3.

The refined **Ideal Partner Questionnaire** was used, as per Chapter 3.

Qualitatively expressed preference was assessed by asking participants to respond to the following task: “In no more than 100 words, please describe your ideal partner.” Text analysis was conducted using the LIWC as its validity and usefulness has been demonstrated in comparable samples (Fiore et al., 2010). The LIWC classifies the words used in any text sample. In the present study, the text sample is each person’s response to the qualitative question on preference.

The LIWC classifies words into one or more of its 64 pre-programmed categories. The program calculates the percentage of words within the text sample that fall into each category. The following LIWC categories were selected for analysis: *Summary dimensions* (e.g., total number of words used, dictionary words etc.); *Other Grammar* (verbs and adjectives); *Perceptual processes* (seeing, hearing, feeling); *Biological processes* (e.g., health, sexual); *Drives* (e.g., achievement, power, affiliation etc.); *Positive Emotions*; *Social* (family and friends); *Personal Concerns*

(work, leisure, home, money, religion); *Cognitive Processes* (tentative and certain words).

Some categories were excluded from analysis on the basis that they were unlikely to be relevant to the context (e.g., the *death* sub-category of the Personal Concerns dimension). Text analysis by use of words per sentence, words of more than six letters, punctuation, function words and informal language was not undertaken on the basis that differences in these respects are highly likely to be an artefact of the format for responses and the requirement to keep answers brief; this was also the reason for excluding a sub-set of categories in the *Cognitive Processes* dimension which related more to word positioning deemed more likely to be relevant for lengthier text samples. LIWC *Time Orientation* analysis (identified reference to the past, present or future) was also excluded on the basis that participants were all being asked about an ideal future partner. Words categorised as *Negative emotions* were not analysed on the basis that the question was framed positively. *Gender* words were excluded because the gender of partner sought was asked as a separate question and, therefore, analysing data by reference to gender references could be misleading. Finally, a sub-set of the *Grammatical Constructs* category was excluded on the basis that it focused on the extent of comparator and numerical words which lacked theoretical relevance to the present study.

6.3. Results

6.3.1. Descriptive statistics. Descriptive statistics for the summary dimensions are presented in Table 6.1. The *Word count* category reports raw data, while the *Dictionary words* category is the percentage of words in the text that can be found in the dictionary. For *Analytical Thinking*, *Clout*, *Authentic* and *Emotional Tone* categories, data in each text sample represents composite variables based on

previous research and are converted into percentiles (Pennebaker, Booth, Boyd, & Francis, 2015). Given the highly variable nature of qualitatively expressed preference, skewness and kurtosis have been reported (along with Kolmogorov-Smirnov test results in the text thereafter) to provide a better understanding of the dataset.

Table 6.1.

Descriptive Statistics for LIWC Summary Dimension Categories

LIWC category¹	Range²	Obs. Range³	M	SD	Skewness (SE)	Kurtosis (SE)
WC	0-100	0-100	42.07	28.17	.74 (.05)	-.48 (.09)
Dict.	0-100%	20-100%	91.31	9.61	-.2.74 (.05)	10.08 (.09)
Analy.	0-100	1-99	34.60	33.21	-.39 (.05)	-1.2 (.09)
Clout	0-100	1-99	63.96	25.18	-.54 (.05)	-.56 (.09)
Authent.	0-100	1-99	95.35	15.32	.69 (.05)	-.92 (.09)
Emot.	0-100	1-99	95.35	15.32	-4.4 (.05)	17.65 (.09)

Note: ¹Word count, Dictionary words, Analytical thinking, Clout, Authentic, Emotional Tone; ²Range (in actual number of words); ³Observed range (in actual number of words).

The LIWC program recognised 91% of the words used, indicating both its utility for analysing this sample and that respondents in the sample were literate. While response length varied considerably, people kept answers brief. The mean word count was well below the maximum number of words permitted (M=42.07, SD=28.17) and the distribution was highly positively skewed (D(2869)=.11, p<.001).

Authenticity scores were moderately positively skewed ($D(2869)=.11, p<.001$), although the mean score on this dimension ($M=95.35, SD=15.32$) indicates honest and open responses (Pennebaker et al., 2015). Emotional Tone scores were highly negatively skewed ($D(2869)=.50, p<.001$), with the mean score on this dimension ($M=95.35, SD=15.32$) indicating more positive, optimistic responses, along with low anxiety and negative feeling in the sample (Pennebaker et al., 2015). Clout scores were moderately negatively skewed ($D(2869)=.08, p<.001$) with the mean score ($M=63.96, SD=25.18$), suggesting people felt reasonably confident about what they were saying. Finally, the sample mean score for Analytical Thinking was low ($M=34.60, SD=33.21$) and the distribution was approximately negatively skewed ($D(2869)=.11, p<.001$). This is reassuring and to be expected in this context, given that low scores on this dimension indicate “informal, personal, here-and-now, and narrative thinking” (Pennebaker et al., 2015, p. 21).

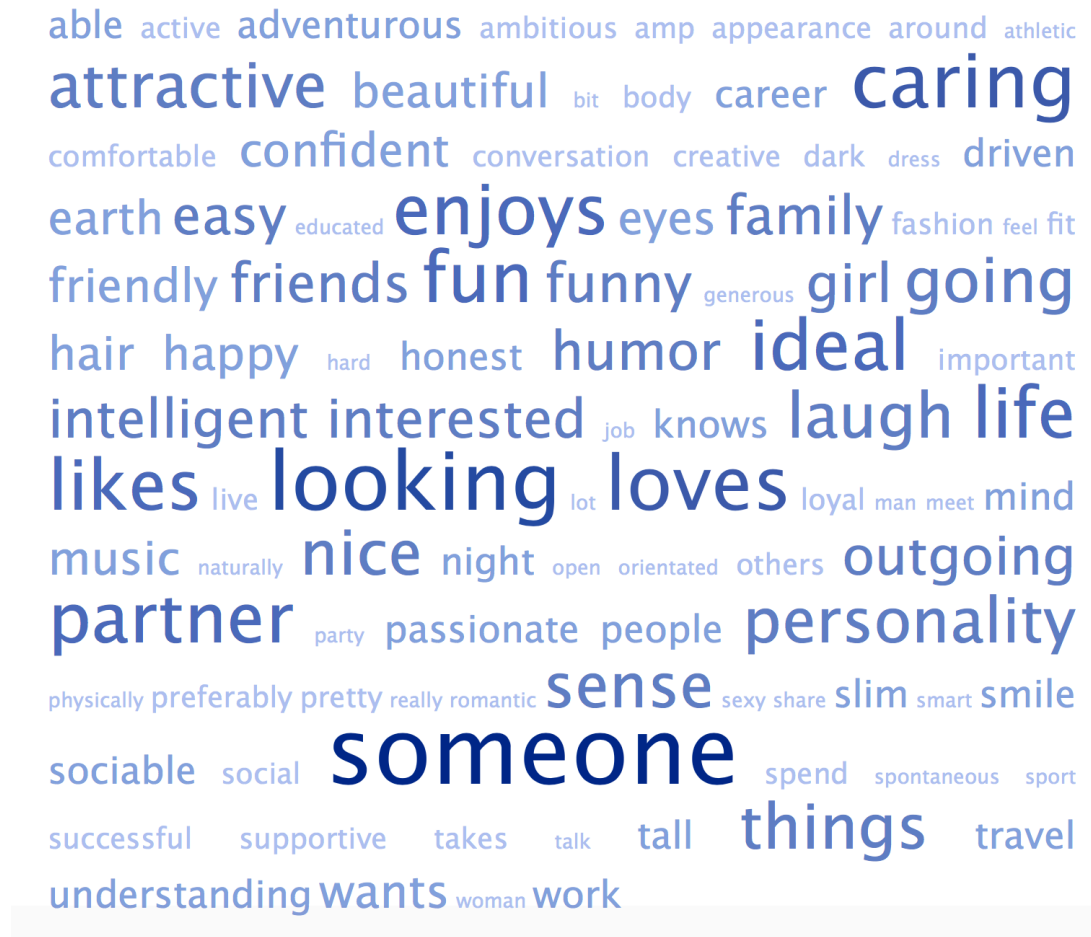
To ensure meaningful statistical analysis, LIWC categories with a mean score of $<1\%$ were excluded. These categories were *Religion*, *Money* and *Home*. Descriptive statistics for all other LIWC categories included in the analysis are summarised in Table 6.2 and a word cloud depicting the responses is presented in Figure 6.1. For all categories, LIWC scores equate to the percentage of text within each person’s response that falls into the coding category. Positive Emotion words feature most commonly in the text ($M=19.82, SD=12.90$), followed by verbs ($M=14.22, SD=7.66$), then adjectives ($M=13.20, SD=10.47$). Cognitive Process words feature least commonly, with Certainty words scoring lowest ($M=1.21, SD=2.40$) and Tentative words scoring second-lowest ($M=2.80, SD=3.29$).

Table 6.2.

Descriptive Statistics for LIWC Categories

LIWC category	Observed range (%)	M	SD
Grammar			
Verbs	0-41.18	14.22	7.67
Adjectives	0-83.33	13.20	10.47
Positive emotion			
Personal concerns			
Work	0-25.00	1.91	3.02
Leisure	0-33.33	3.17	3.98
Social Concerns	0-50.00	11.96	7.08
Cognitive processes			
Tentative	0-50.00	2.80	3.29
Certain	0-50.00	1.21	2.40
Perceptual Processes	0-35.29	4.50	4.32
Biological Processes	0-28.57	3.15	3.69
Drives	0-57.14	12.69	7.71

Figure 6.1. Word cloud showing top 100 most frequently used words



6.3.2. Correlation analysis: IPQ factors and qualitatively expressed

preference. Firstly, the relationship between qualitatively expressed preference, coded by LIWC category, was tested. Table 6.3 details Spearman zero-order correlations for all pairs.

Table 6.3.

Spearman Correlation Coefficients: IPQ Factors and LIWC Categories

	Art.	Car.	Emo.	Soc.	Ath.	Ima.	Suc.
Verbs	-.09**	.03	.02	.08**	.06**	.03	-.02
Adjectives	-.00	.04	.06**	-.02	.01	.04*	.04*
Pos. Emot. ¹	-.04*	.09**	.09**	-.02	.04	.02	.04*
Work	-.01	-.00	.05**	-.06**	.09**	-.05**	.30**
Leisure	-.03	.03	.01	.08**	.07**	-.01	-.04*
Social	.01	.11**	.09**	-.05**	-.06**	-.11**	-.02
Tentative	.05**	.02	-.01	-.02	-.07**	-.05**	-.08**
Certain	.02	-.01	-.02	.00	.00	-.02	.04*
Perceptual	-.06**	-.03	-.01	.09**	.05*	.17**	.02
Biological	.03	-.02	-.03	.02	.04*	.03	.05**
Drives	-.11**	.05**	.08**	.01	.08**	.00	.15**

Note: ¹Positive Emotions; ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.

Of the 77 possible correlations, 30 were significant at $p < .01$. As in previous studies, there is an elevated risk of a Type I error due to a large number of correlations. In order to control for this, a complementary False Discovery Rate (FDR) criterion was applied. This is less conservative than the Bonferonni corrections applied in previous chapters. Bonferonni corrections seek to prevent any false positives; in doing so, they raise the risk of Type II errors. The FDR control aims to ensure that most of the statistically significant results are correct and is therefore more powerful (Groppe, 2013; Groppe, Urbach, & Kutas, 2011). This particular

quantitative analysis is based on coded qualitative data, categorised using a pre-defined method. The study uses a novel, forced-choice scale and therefore the LIWC framework has not been tested before in this particular analytical context. The qualitative text samples on which the analysis is based are very short and many are written in note form. It seems prudent, therefore, given the exploratory nature of this study, which seeks to demonstrate a relationship rather than imply causality, that Type II errors present a greater risk to useful results. Use of the FDR is also consistent with methods used in previous research using the LIWC (Yarkoni, 2010). All results cited as significant at $p < .01$ in Table 6.3 remained significant with the FDR set to 5%, indicating limited risk of Type I error; of these correlations, most were very weak. Taking each IPQ factor in turn, we see that there was a weak but significant negative correlation between the Artistic IPQ factor and the LIWC category Drives ($Rho = -.11$, $p < .01$); this factor also correlated positively (albeit weakly) with the use of tentative words ($Rho = .05$, $p < .01$), and very weakly and negatively with use of verbs ($Rho = -.09$, $p < .01$) and Perceptual Process words ($Rho = -.06$, $p < .01$). In summary, therefore, H1a was partially supported.

There was a weak but significant positive correlation between the IPQ factor Caring and words coded to the Social category ($Rho = .11$, $p < .01$). This IPQ factor also correlated positively (albeit weakly) with the use of Positive Emotion words ($Rho = .09$, $p < .01$) and Drive words ($Rho = .05$, $p < .01$); as a result, H1b was supported.

People seeking a Balanced partner are more likely to use adjectives ($Rho = .06$, $p < .01$), and words coded to the Positive Emotion category ($Rho = .09$, $p < .01$). These people are also more likely to use words coded to the categories Work ($Rho = .05$, $p < .01$), Social ($Rho = .09$, $p < .01$) and Drives ($Rho = .08$, $p < .01$); H1c was rejected.

People seeking a Sociable partner were more likely to use verbs ($Rho=.08$, $p<.01$), leisure-related words ($Rho=.08$, $p<.01$) and Perceptual Process words ($Rho=.09$, $p<.01$). They were less likely to use words categorised as relating to Work ($Rho=-.06$, $p<.01$) or Social ($Rho=-.05$, $p<.01$) concerns; H1d was rejected.

There were very weak positive correlations between preference for an Athletic partner and use of verbs ($Rho=.06$, $p<.01$). Similarly, the Athletic factor correlated weakly and positively with words coded as Work concerns ($Rho=.09$, $p<.01$), Leisure concerns ($Rho=.07$, $p<.01$) and Drives ($Rho=.08$, $p<.01$). There were very weak negative correlations between preference for an Athletic partner and use of Social ($Rho=-.06$, $p<.01$) and tentative words ($Rho=-.07$, $p<.01$). Preference for an Image-conscious partner was associated very weakly and negatively with tentative words ($Rho=-.05$, $p<.01$) and words coded to the Work category ($Rho=-.05$, $p<.01$). There were slightly stronger relationships between this IPQ factor and Social words (negative correlation; $Rho=-.11$, $p<.01$), as well as Perceptual Process words (positive correlation; $Rho=.17$, $p<.01$); H1f was partially supported.

Finally, there was a moderate correlation between Work-related words and preference for a Successful partner ($Rho=.30$, $p<.01$). A weaker correlation was found between the same IPQ factor and words coded to the LIWC category drives ($Rho=.11$, $p<.01$). Those who sought a Successful partner were also more likely to use words coded as Biological Processes ($Rho=.05$, $p<.01$) and less likely to use tentative words ($Rho=-.08$, $p<.01$), although in both cases relationships were weak; H1g was partially supported.

6.3.3. Multiple regression: Demographic factors, personality traits and IPQ factors. Consistent with previous studies, seven forced-entry multiple regressions were performed to determine the extent to which qualitatively expressed

preference explained variance in partner preference, as measured by the IPQ tool, over and above demographic factors and personality characteristics. Results are presented in Tables 6.4, 6.5 and 6.6.

Table 6.4.

Multiple Regression Model for IPQ Factors and Demographics (Model 1):

Standardised Weights and R Square

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 1 (demographics)								
Beta weights	Age	.18**	.21**	.22**	-.28**	-.12**	-.25**	-.18**
	Gender	-.18**	.16**	.14**	-.03	.07**	-.28**	.31**
	Sexuality	.07**	.01	-.01	-.05**	-.10**	-.05**	.02
	Educ.	.10**	.02	-.03	-.04*	.06**	-.08**	-.00
	Income	-.14**	-.04*	.00	.07**	.14**	.10**	.19**
	Politics	.16**	-.02	-.02	-.10**	-.03	-.12**	.03
	Ethnicity	.03	-.06**	.05**	-.15**	-.02	.02	.13**
	Religion	.18**	-.03	-.05**	-.12**	-.09**	-.08**	-.03
	R2	.16	.08	.07	.15	.05	.19	.13
	Adj. R2	.16	.08	.07	.15	.05	.19	.13

Notes: ¹ IPQ factors: Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ** $p < .01$, * $p < .05$.

Table 6.5.

*Multiple Regression Model for IPQ Factors, Demographics and Personality**Variables (Model 1): Standardised Weights and R Square*

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 2 (demographics and personality²)								
Beta weights	Age	.16**	.09**	.10**	-.19**	-.10**	-.16**	-.11**
	Gender	-.19**	.10**	.10**	-.02	.08**	-.24**	.35**
	Sexuality	.05*	-.00	-.01	-.04*	-.08**	-.03*	.04*
	Educ.	.08**	-.02	-.07**	-.01	.08**	-.04**	.04*
	Income	-.09**	-.04*	-.00	.04*	.10**	.07**	.15**
	Politics	.16**	-.02	-.02	-.09**	-.02	-.11**	.03
	Ethnicity	.03**	-.04*	.06**	-.09**	-.03	.00	.11**
	Religion	.14**	-.04*	-.04*	-.11**	-.07**	-.07**	-.00
	Extra.	-.19**	-.00	-.09	.28**	.12**	.11**	.08**
	Agree.	-.03	-.02**	.12**	-.00	-.03	.01	-.06**
	Consc.	-.09**	.01	.13**	-.07**	.15**	.07**	.19**
	Emot.	-.11**	-.10**	-.03**	.10**	.06**	.09**	.09**
	Open.	.27**	-.17**	-.18**	-.06**	-.04*	.01	-.01
	Mach.	.05*	-.11**	-.11**	-.00	-.06**	.04	.05*
	Psych.	-.16**	-.25**	-.17**	.18**	.12**	.30**	.25**
	R2	.27	.25	.23	.27	.10	.29	.23
	Adj. R2	.26	.25	.23	.26	.09	.29	.23

Notes: ¹ Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious; ² Agreeableness, Conscientiousness, Emotional Stability, Openness to experience, Machiavellianism, Psychopathy; ** $p < .01$, * $p < .05$.

Table 6.6.

Multiple Regression for IPQ Factors, Demographics, Personality Variables and LIWC Variables (Model 3): Standardised Weights and R Square

IPQ factors¹		Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Model 3 (demographics¹, personality² and qualitatively expressed preference³)								
Beta weights	Age	.15**	.09**	.11**	-.19**	-.09**	-.16**	-.11**
	Gender	-.18**	.10**	.09**	-.01	.07**	-.24**	.31**
	Sexuality	.05**	-.01	-.09**	-.04*	-.08**	-.03	.04*
	Educ.	.08**	-.02	-.06**	-.01	.07**	-.04**	.03
	Income	-.09**	-.03	.00	.04*	.10**	.07**	.14**
	Politics	.15**	-.02	-.03	-.08**	-.02	-.10**	.02
	Ethnicity	.03	-.04*	.05*	-.15**	-.03	.00	.09**
	Religion	.13**	-.04*	-.04*	-.10**	-.07**	-.07**	-.01
	Extra.	-.18**	-.02	-.09**	.27**	.11**	.10	.04**
	Agree.	-.03	.15**	.11**	-.00	-.03**	.01	-.07**
	Consc.	-.09**	.01	.13**	-.07**	.14**	.07**	.18**
	Emot.	-.10**	-.10**	-.04*	.10**	.06**	.09**	.09**
	Open.	.27**	-.16**	-.17**	-.06**	-.04**	-.00	-.01
	Mach.	.05*	-.11**	-.11**	.00	-.06*	.04	.04*
	Psych.	-.15**	-.25**	-.16**	.18**	.11**	.28**	.24**
	Verbs	-.05**	.03	.02	.05*	.09**	.02	.01
	Adj.	.02	-.00	-.00	-.00	-.03	.02	-.00
	Pos. emo.	-.00	.05	.03	-.03	.05	-.02	.00
	Work	.04*	-.05**	-.00	-.04*	.03	.01	.21**
	Leisure	-.02	-.00	-.02	.08**	.07**	.00	-.05**
	Soc. pro.	.03	.05*	.03	-.04*	-.05*	-.05	.02
	Tent.	.01	-.04*	-.06**	.03	-.01	.00	-.01
	Cert.	.01	-.04*	-.04**	.03	-.01	.02	.03*
	Per. pro.	-.02	.00	.01	.04*	.01	.11**	.02
	Bio. pro.	.00	-.04*	-.05**	.03	.04*	.03*	.06**
	Drives	-.09	.00	.02	.05*	.04	.04*	.05*
R2		.28	.26	.24	.28	.12	.30	.29
Adj. R2		.27	.25	.23	.27	.11	.30	.29

Notes: ** $p < .01$, * $p < .05$. ¹ Artistic, Caring, Balanced, Sociable, Athletic, Successful, Image-conscious. ² Extraversion, Agreeableness, Conscientiousness, Openness, Emotional Stability, Machiavellianism and psychopathy. ³ LIWC categories: Grammar, positive emotion, personal concerns, social concerns, cognitive processes, perceptual processes, biological processes, drives.

Qualitatively expressed preference was a significant predictor of ideal partner preference, in respect of all IPQ factors ($p < 0.001$ for all models). However, for all except the IPQ factor Successful, only a negligible or small amount of variance ($\leq 2\%$ in each case) was explained after accounting for demographic and personality factors; the Successful IPQ factor explained the most amount (6%) of additional variance ($R^2=.29$, $F(26, 2729)=43.65$, $p<.001$). This was a result of words coded to the categories: Work ($\beta=.21$, $p<.001$), Leisure ($\beta=-.05$, $p<.01$), Certainty ($\beta=.04$, $p<.05$), Biological processes ($\beta=.06$, $p<.05$) and Drives ($\beta=.05$, $p<.05$).

In the Artistic model ($R^2=.25$, $F(26, 2703)=39.61$, $p<.001$), the most significant predictors were verbs ($\beta=-.05$, $p<.01$) and words coded to Drives ($\beta=-.09$, $p<.001$). In the Caring model ($R^2=.26$, $F(26, 2703)=36.58$, $p<.001$), the most significant predictors were Work-related words ($\beta=-.05$, $p<.01$). In the IPQ Balanced model ($R^2=.23$, $F(26, 2703)=33.12$, $p<.001$), the most significant predictors were tentative words ($\beta=-.06$, $p<.01$), certain words ($\beta=-.04$, $p<.01$) and words related to Biological Processes ($\beta=-.05$, $p<.01$). In the Sociable model ($R^2=.27$, $F(26, 2703)=40.90$, $p<.001$), the most significant predictors were verbs ($\beta=.05$, $p<.01$) and words coded to the Leisure category ($\beta=.08$, $p<.01$). In the Athletic model ($R^2=.11$, $F(26, 2703)=13.69$, $p<.001$), the most significant predictors were verbs ($\beta=.09$, $p<.001$), Leisure words ($\beta=.07$, $p<.001$) and Social words ($\beta=-.05$, $p<.01$). Finally, in the Image-conscious model ($R^2=.30$, $F(26, 2703)=46.48$, $p<.001$), the most significant predictors were words coded to the Perceptual Processes category ($\beta=.11$, $p<.001$). Scatterplots and tests for collinearity indicated that assumptions of homogeneity of variance and linearity were met for all models, and all residuals approximated a normal distribution. Overall, H2 was weakly supported.

6.4 Discussion

6.4.1. How does qualitatively expressed preference relate to IPQ

measures? Qualitatively expressed preference does relate to IPQ measures, although relationships in the present study were weaker than predicted. The reasons for the weak correlations are examined in detail in the Limitations section (see: section 6.4.3) and nonetheless, these relationships support and validate the IPQ as a robust, novel measure of partner preference. The results related to each IPQ factor will now be discussed in turn. Firstly, people seeking an Artistic partner used more tentative language; e.g., words such as “quite” or “fairly”. As indicated by previous research, this language is also more likely to be used by people open to experience (Pennebaker & King, 1999); this result consolidates findings reported in Chapter 3 - that openness predicts preference for an Artistic partner. Results indicate that people seeking Artistic partners are less likely to make reference to their senses; this is highly surprising, given the IPQ items relate to activities associated with seeing, hearing and feeling. However, looking in detail at the content of text scoring highly in respect of this LIWC dimension, this has tended to be worded positively, subjectively and is almost exclusively related to physical appearance; e.g., “smells good”, “a beautiful face”, “good-looking”, “nice eyes”. On this basis, a positive correlation would not be expected with the Artistic factor which focuses much more on intrinsic appreciation of beauty or aesthetics (e.g., “likes art”, “has a vivid imagination”, “is creative”). Within the IPQ scale, physical attractiveness relates to items within both the Image-conscious domain and the Athletic domain. The IPQ Artistic factor correlates negatively with both of these other domains, which helps makes sense of this result. It also demonstrates the new and valuable contribution made by the IPQ tool in terms of

its ability to measure different and highly nuanced applications of the same broad characteristic.

People seeking a Caring partner tended to use words related to social activity: this was as hypothesised, given the conceptual difference between the LIWC coding categories and the IPQ factors. IPQ sociability relates to extraversion, enjoyment of being in company and a large friendship circle, but this LIWC domain encompasses home and family-related words. As expected, people seeking a Caring partner also used more words indicating positive mood, including “kind”, “thoughtful”, “loving” and “considerate”. These results are consistent with the values and behaviours underpinning the IPQ Caring domain and therefore further increase our confidence in the measure.

People seeking a Balanced partner were more likely to be positive in tone and reference wide-ranging personal concerns (e.g., words coded to the categories Work, Family, Friends or Drives). Again, these findings help validate this IPQ domain, which encompasses characteristics such as self-management, conflict management, authenticity, honesty and positive disposition. As these attributes also encompass (but are not limited to) the Big Five trait emotional stability, it is understandable that they would have an impact on multiple areas of life. The lack of support for the hypothesis regarding more certain speech (and less tentative speech) could be attributable to the “bullet list” nature of many responses, which limited the use of cognitive processing words. This was also likely to be the case in respect of other IPQ factors, where grammar was a less influential variable than expected.

The IPQ factor Sociable correlated positively with the IPQ factor Successful, indicating that the values and behaviours underpinning the concept of success are transferable across domains. Preference for a Sociable partner, as defined by the IPQ,

correlated negatively to use of words related to work, home and family; this helps explain the trade-offs made between characteristics in these domains. The LIWC category of work is distinct from the LIWC Drives category and is, therefore, very specific. In the IPQ, the same concept is just one aspect of a domain (Successful) that also relates to preference for achievement, education and status. High-scorers on the work domain say that they would like, for example, “a business woman” or someone “with good career prospects”; it may be that this is incompatible with a partner defined by the IPQ factor Sociable (i.e., someone who “throws great parties”, “seeks excitement” and “has a busy social life”).

As predicted, those seeking Athletic partners used Drive-related words and were also more likely to use verbs. These results provide support for the validity of the IPQ, in which the Successful and Athletic factors are positively correlated. They also explain this further in terms of the value placed on action. There was no correlation between preference for an Athletic partner and words coded as Biological Processes; this could be attributable to the LIWC-coding category not mapping neatly onto the Athletic factor. While Biological words would encompass those related to concepts related to well-being (e.g., health, body, food), they also include words coded to the sub-category *Sexual*, which may have distorted findings. Preference for an Image-conscious partner did not predict use of Drive-related words. As before, this could be explained by the values, behaviours and feelings underpinning the IPQ Successful factor not being captured within a single LIWC coding category or domain. There was a positive correlation between preference for an Image-conscious partner and use of perception-related words, supporting the validity of the IPQ Image-conscious factor that is heavily concerned with visual appeal (e.g., “is trendy”, “dresses well”).

Finally, as predicted, those wanting Successful partners are more likely to use words coded to the LIWC categories *Power*, *Achievement*, *Affiliation*, *Risk* and *Reward* (sub-categories within the Drives dimension). They are also more likely to refer to biological drives. This is consistent with the most prominent existing preference model (Fletcher et al., 1999) in that findings support evolutionary psychology. These results also move beyond current knowledge by providing a broader understanding of the concept of drives. The fact that this encompasses sexual behaviour may be also be relevant, as this relates explicitly to reproductive fitness and therefore is conceptually congruent with evolutionary psychology definitions of eligibility. This is important given that one of the aims of the IPQ measure was to encompass, but not be limited to, established findings in this regard. Consistent with previous research, those with dark personality traits are also more likely to use sexual words (Sumner et al., 2012; Wald, Khoshgoftaar, & Sumner, 2012). These results, therefore, consolidate findings from Chapter 4 Study 4: that psychopathy and Machiavellianism predict preference for a Successful partner. They also provide a contribution to the literature on both personality and evolutionary psychology.

6.4.2. Does qualitatively expressed preference help explain partner preference? Despite the small amount of variance explained, looking at the significant linguistic predictors of IPQ factors adds new knowledge to current understanding of preference trade-offs and, in doing so, helps to further support and explain the latent concepts underpinning the IPQ. The regression analysis indicated that a preference for a Successful partner may be at the expense of leisure-related activity, which negatively predicted this IPQ factor. It is also interesting to note that word use certainty indicated predicted preference for a Successful partner. On the basis that higher use of definitive language is related to greater credibility, perceived

status and influence (e.g., Corley & Wedeking, 2014; Mahmud, 2014), this finding supports the hypothesis of positive assortment and, in doing so, the IPQ's theoretical foundation. It also adds to what is understood from evolutionary psychology about concepts of fitness, by contributing to a more nuanced understanding of success in functional terms.

The finding that use of motivation-related words negatively predicts preference for an Artistic partner consolidates the findings of previous studies in this thesis. Drive-related words relate to achievement, reward, risk, power and affiliation. They positively predicted preference for a Successful partner, consistent with our hypothesis. At the factor level, Artistic and Successful are negatively correlated which suggests that people seeking a partner with qualities encompassed by the Artistic domain will trade these off against characteristics within the Successful factor. Again, this reinforces the potential usefulness – and novelty – of the IPQ in that it demonstrates Artistic as a distinct trait and positions it as being conceptually opposed to achievement-related traits. It also broadens our understanding of the latent characteristics underpinning the IPQ factor Successful which are both consistent with items in the IPQ scale, and also provide more specificity. For example, words used by those scoring highly on drives relate to: behavioural manifestations of success, (e.g. “winner”; “not a loser”); criteria for success (“ambitious, “sets goals”); and values underpinning success (“is determined”, “driven”). The separation of work as a distinct category from drives in the LIWC dictionary is interesting and these results suggest people see commitment to work as being incompatible with caring characteristics. This is somewhat inconsistent with the IPQ items in the Caring factor, some of which relate to characteristics that could be advantageous in employment (e.g. “...is a team player”, “gets on well with most people”). Overall, however, the Caring factor relates

to altruism and compassion so it may be that workplace-specific success is seen ultimately as difficult to balance against selflessness. That both tentative words and certain words negatively predicted preference for a Balanced partner is interesting. It could be, for example, that this indicates lack of decisiveness which, in turn, elicits preference for someone with sufficient intrapersonal skills to navigate ambivalence. There is insufficient evidence from the present study to suggest a clear explanation so this would benefit from further study.

Words denoting action, and those related to leisure time and activity predict preference for both a Sociable partner and an Athletic partner, further supporting the theories of positive assortment that underpin the IPQ. Likewise, the relationship between seeing, feeling and hearing with preference for an Image-conscious partner. While one might assume, within the IPQ framework, that this relates only to visual image (e.g. "...keeps up with the latest fashion", "...takes care of his/her appearance") these results suggests aesthetic appeal is a more multi-sensory phenomenon. Again, this warrants further study.

In summary, this study has provided significant new knowledge that both further explains and validates the IPQ domain structure, and extends what is currently known about trade-offs made in partner selection. Of particular interest is the further support for Artistic as a distinct trait and the additional qualitative detail that articulates further the behaviours, values and characteristics associated with a Successful partner.

6.4.3. Limitations. While a high proportion of the correlations were as hypothesised, the correlations were weak overall. This can be attributed overwhelmingly to two related factors: short response length and limitations of LIWC coding. In terms of response length, participants could use up to 100 words to

describe their partner, yet few did; there was significant variance in word count. Most people simply listed preferred characteristics or phrases, rather than writing in full sentences, while some chose not to answer (N=54; 1.9%). All responses were included, as it would be unreasonable to assume that a nil return was uncorrelated to personality or ideal partner preference. While LIWC has been particularly valuable for understanding expressed preference in directly comparable contexts, typically far more data has been available (e.g., Davis & Fingerman, 2016; Fiore, Taylor, Zhong, Mendelsohn, & Cheshire, 2010)

Moving on to software limitations, while LIWC can understand swear words and some slang, it is not yet sophisticated in detecting sarcasm, irony, some colloquialisms, simile, metaphor or many proper nouns. This limitation became evident when piloting the tool on a sample of the data. For instance, one respondent specified that he wanted to meet his ‘angel’: this was coded by LIWC as a religious word. While technically correct, this would clearly be a misinterpretation of the metaphorical intention behind the expression. Following piloting, data cleaning involved a line-by-line review of each response to ensure that - so far as possible without biasing or compromising the results - analysis would be meaningful. It was legitimate to edit only a very small proportion of the overall dataset, given the need to preserve data integrity. This work was limited to correcting obvious typographical and spelling errors, as well as writing out abbreviations in full (e.g., “GSOH”) in order that they could contribute to analysis. Arguably, even this work added researcher bias but, given that summary dimensions (Word Count, Dictionary Words etc.) were presented only as part of descriptive statistics and for context, rather than for inclusion in analysis, this was considered acceptable. Related to this is the lack of nuance in computer-related coding. This study found discrepancies between coding

within the LIWC dictionaries and the IPQ factor definitions; some were predicted based on category headings (e.g., it was hypothesised that words coded by the LIWC as ‘social’ would relate to preference for a Caring not a Sociable partner). However, some less obvious anomalies were also reported.

There is an obvious relationship between the two confounding problems. Where passages of text are lengthy, this limitation has less of an impact, because the effect of a small amount of miscoding will be relatively small. The present dataset includes some very brief responses, and each word in a short response makes a greater contribution to the overall score for the LIWC domains; therefore, the impact of conceptual discrepancies coding is more significant.

6.4.4. Recommendations for further study. These findings indicate the usefulness of further study in this area. The present study could be replicated with samples in which people are able to write in a less restricted way. As the question asked were part of a much bigger battery of tests, it could also be that people placed a relatively small amount of importance on this question than had it stood alone. It would be useful to replicate the study with a sample that are asked the research question, either on its own or as part of a much smaller suite of tools, to ascertain whether responses were comparable in both length and content. It would be particularly helpful to use online dating profile content as the basis for qualitatively expressed partner preference, as other studies have done, but for the purpose comparing the coding against the IPQ domain scores; this would present a less artificial content and, in doing so, enable more extensive and generalisable analysis.

CHAPTER 7: *The Relationship Between
Preference, Eligibility, Satisfaction and Personality
in Established Couples*

STUDY 8

7.1 Introduction

7.1.1. Relationship satisfaction. The success, or otherwise, of partner selection can only be understood in terms of its impact on individual and dyadic outcomes related to the partnership (for discussion, see: Chapter 1, section 1.4.1). Relationship satisfaction is “the cornerstone for our understanding of how relationships and marriages work”, and yet its definition has been subject to years of debate (Funk & Rogge, 2007, p. 572; Vaughn & Baier, 1999). The most helpful interpretation is that it is a single, global construct describing how a person feels subjectively about their relationship at a point in time (Graham, Diebels, & Barnow, 2011; S. S. Hendrick et al., 1998). People seek relationship satisfaction both for its own sake and because it is associated with a range of psychological and physiological benefits (Diamond, Fagundes, & Butterworth, 2010; Schaffhuser, Allemand, & Martin, 2014). Satisfactory relationships provide the participants with companionship and love, while also facilitating personal growth and feelings of self-worth (Sedikides, Oliver, & Campbell, 1994). As a result, these relationships predict happiness after accounting for personality (Demir, 2008).

Relationship satisfaction is distinct from, yet correlated to, a wide range of traits, behaviours and contextual factors (Fincham & Bradbury, 1987; Graham et al., 2011; Kurdek, 1992; Vaughn & Baier, 1999). Contextual correlates of relationship satisfaction include daily stresses (Falconier, Nussbeck, Bodenmann, Schneider, & Bradbury, 2015), in addition to financial wellbeing and employment status (Vinokur, Price, & Caplan, 1996). Correlates stemming from the partnership include: respect (Frei & Shaver, 2002); gratitude (Algoe et al., 2010); physical affection and sex (Gulledge, Gulledge, & Stahmann, 2003; McNulty, 2016); the quality of, and

approach to, communication (Byers, 2005; Coyne, Stockdale, Busby, Iverson, & Grant, 2011; Meeks et al., 1998; J. A. Roberts & David, 2016); support for the achievement of personal goals (Brunstein, Dangelmayer, & Schultheiss, 1996); and conflict management (Cramer, 2000). Individual partner correlates of satisfaction include: mental and physical health (Ross, Ranby, Wooldridge, Robertson, & Lipkus, 2016; Whisman, Uebelacker, & Weinstock, 2004); emotional intelligence and problem solving abilities (Malouff et al., 2014; Metis & Cupach, 1990); and relationship beliefs and relationship experience (Bradbury & Fincham, 1988; Frazier & Esterly, 1990). Relationship satisfaction also predicts other relationship outcomes: it is correlated, for example, with commitment, such that expected future satisfaction predicts commitment behaviours and relationship longevity (Baker, McNulty, & VanderDrift, 2017).

As introduced in Chapter 2, personality plays an important role in predicting relationship quality and outcomes (Barelds & Barelds-Dijkstra, 2007; Solomon & Jackson, 2014). Neuroticism predicts lower quality long-term relationships, while Extraversion and Agreeableness predict higher quality relationships (Barelds, 2005; E. L. Kelly & Conley, 1987; B. W. Roberts et al., 2007). Couples are happier when they are more similar than dissimilar in personality, overall (Arránz Becker, 2013; Gaunt & Gaunt, 2016; Gonzaga et al., 2007). Studying personality and relationship satisfaction also requires controlling for both actor and partner effects: a person's overall satisfaction with life when in a relationship is predicted by their personality traits (Furler et al., 2013), while their relationship-specific satisfaction is predicted by their partner's personality (Altmann, Sierau, & Roth, 2013; Dyrenforth et al., 2010). In particular, a person's relationship satisfaction is higher when their partner is low on

Neuroticism, high on Agreeableness, Conscientiousness and Extraversion (Malouff et al., 2010; Watson et al., 2000).

7.1.2. Romantic ideals in established couples. Feeling connected to others is a universal human need (Deci & Ryan, 1985; R. M. Ryan & Deci, 2000). Romantic relationships thrive when each partner feels bonded to the other through a sense of shared values and experiences (Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002). Relationship functioning and satisfaction is determined by each partner's experience of this bond, such as their perception of the other person's responsiveness, empathy, emotional expression and investment in the relationship (M. H. Davis & Oathout, 1987; Impett, Le, Kogan, Oveis, & Keltner, 2014; Joel, Gordon, Impett, MacDonald, & Keltner, 2013; Reis, Clark, & Holmes, 2004).

Interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959) dictates that relationship outcomes are determined by the extent to which a relationship matches or falls short of ideals (Campbell et al., 2001; Fletcher et al., 1999; Ruvolo & Veroff, 1997): the more long-term the relationship, the more important ideals become (Fletcher et al., 2004). This is because interdependence increases over time and the investment required to maintain the relationship becomes more significant (Agnew et al., 1998; Eastwick et al., 2014).

Idealisation plays an important role in determining relationship satisfaction (Murray, Holmes, & Griffin, 1996a). As introduced in Chapter 2, where a couple consider each other to represent their ideal partner, they experience the greatest relationship satisfaction (Fletcher et al., 2000; Knee et al., 2001; Murstein, 1972). People typically view their partner more favourably than the partner rates themselves (Murray et al., 1996a), which has a beneficial effect on the relationship as a person's own ideals are projected onto their partner to such an extent that the partner begins to

embody these ideals; this, in turn, increases satisfaction and predicts relationship longevity (Murray & Holmes, 1997; Murray et al., 1996b). In long-term relationships, people with negative self-appraisals experience particular benefits from their partner's more positive appraisals of them, experiencing increased relationship satisfaction as a result (Campbell, Lackenbauer, & Muise, 2006).

As discussed in Study 1, the Ideal Standards Model (ISM) is the most widely used framework for measuring ideals (Fletcher et al., 1999). The majority of studies of ideals have focused on attraction and initial contact; there is a noticeable gap in the literature on the impact of ideals on outcomes in established relationships (Fletcher et al., 2014). The need for research on the predictive validity of ideals at later stages of relationship formation and development is, therefore, warranted (Campbell & Fletcher, 2015; Fletcher et al., 2000). The Ideal Partner Questionnaire (IPQ) is a tool that can help address this. The IPQ measures ideals by assessing the underpinning latent traits that inform them; this is likely to be helpful, given that the predictive validity of implicit preference (compared to explicit preference) is greater as interdependence increases (Eastwick et al., 2014). Broader than the ISM, the IPQ encompasses context and domain-specific characteristics, includes non-normatively attractive ideals and is rooted in personality theory (see: Chapters 1 and 2). The current version has been tested with expressed preference in the abstract (see: Chapters 3-7), offering the potential for use in relationship initiation and formation, as well as in established couples; however, its validity in these circumstances has not yet been tested.

7.1.3. Experiences in close relationships. There is evidence that ideal standards elicit ongoing evaluation and behaviour modification in established relationships (Fletcher & Simpson, 2000): this is important to understand because the

way people think about, and behave in, romantic relationships predicts how satisfying they will find them (Frazier & Esterly, 1990; Mikulincer & Shaver, 2009).

Accordingly, Eastwick et al. (2014, p. 24) emphasise the importance of understanding preference in respect of “low-level construal information (e.g., concrete behaviour)”, as well as in terms of traits; they identify this as an area for future research.

Attachment style, in particular, explains a significant amount more variance in relationship satisfaction than Big Five personality traits alone (Shaver & Brennan, 1992b); its effects are stable over time (Kirkpatrick & Davis, 1994). Anxiety (fear of abandonment) and avoidance (fear of dependence, extremes of emotion and discomfort with intimacy) are the most significant elements of attachment in this regard (Brennan, Clark, & Shaver, 1998; Shaver & Mikulincer, 2004). Avoidant attachment predicts lower levels of satisfaction, while secure attachment leads to better quality relationships (Feeney et al., 2000; Lowyck, Luyten, Demyttenaere, & Corveleyn, 2008; Mikulincer, Florian, Cowan, & Cowan, 2002; Shaver & Brennan, 1992a). The relationship between attachment and relationship satisfaction can be mediated by such factors as conflict style, forgiveness and humour (Cann, Norman, Welbourne, & Calhoun, 2008; Kachadourian, Fincham, & Davila, 2004).

7.1.4. Rationale for the present study. The IPQ is a novel measure. Demonstrating it is robust, valid and builds on (rather than replicates) existing measures relies on acquisition of data from individuals and couples within established romantic partnerships, in addition to preference data collated in the abstract. Testing it in multiple samples also strengthens evidence for its reliability. The present study uses such data; in doing so, it starts to provide explanatory information about the IPQ’s predictive validity, as well as to address gaps in the literature on the role of perceptions of partner overall eligibility and ideals in established relationships.

7.1.5. Hypotheses.

- H1. Participants' personality will correlate to partner IPQ traits, consistent with findings of the study reported in Chapter 3, specifically:
 - H1a. Extraversion will correlate positively to partner scores on the Sociable, Image-conscious, Athletic and Successful domains;
 - H1b. Big Five Emotional Stability will correlate positively to partner scores on the IPQ Emotional Stability, Image-conscious, Athletic and Successful domains, and negatively to partner scores on the Artistic domain;
 - H1c. Openness will correlate positively to partner score on the Artistic domain, and negatively to scores on the Caring and Balanced domains;
 - H1d. Conscientiousness will correlate positively to partner scores on the Successful, Caring, Balanced domains, and negatively to partner scores on the Artistic and Sociable domains;
 - H1e. Agreeableness will correlate positively to partner scores on the Caring and Balanced domains, and negatively to partner scores on the Sociable, Successful and Image-conscious domains.
- H2. Partner effects in respect of personality will account for a significant amount of variance in relationship satisfaction; specifically:
 - H2a. Neuroticism will be correlated negatively with relationship satisfaction;
 - H2b. Extraversion and Agreeableness will be correlated positively with relationship satisfaction.
- H3. Couples' IPQ preference will be correlated, specifically:

- H3a. Partner scores on IPQ domain Artistic will be positively correlated, given previous findings indicating people seeking Artistic partners have distinct preferences (see: Chapters 3, 4 and 6);
- H3b. Partner scores on Sociable and Successful will be negatively correlated, given previous findings indicating a trade-off between these traits (see: Chapter 6);
- H3c. Partner scores on the IPQ domain Successful will be positively correlated, given previous studies in this thesis indicate positive assortment on related traits (see: Chapters 3 and 6);
- H3d. Partner scores on Successful and Artistic will be negatively correlated, given previous findings indicated a trade-off between these traits (see: Chapter 6).
- H4. Relationship length will moderate the relationship between self-rated eligibility and relationship satisfaction, such that people with low self-rated eligibility will report high satisfaction when they are in longer relationships.
- H5. Higher actor-partner eligibility consistency will predict greater relationship satisfaction, after controlling for personality.
- H6. Higher ideal-perception consistency will predict greater relationship satisfaction, after controlling for personality.
- H7. The ideal-perception rating will explain more variance in relationship satisfaction than relationship behaviour and Big Five traits.

7.2 Method

7.2.1. Participants and procedure. Participants were asked to complete a web-based survey¹⁶, advertised on a popular psychology blog and via researchers' personal networks: "exploring the relationship between personality and romantic compatibility". The study was open to participants worldwide. An introductory page communicated ethical information and contact details. Participants completed the questionnaire unsupervised - with no time limit - and received instant summary feedback based on their responses. The web-link remained active for six months. Participants completed the survey anonymously. The first respondent from any couple was issued with a code on completion of the survey which their partner then entered in their survey response; this allowed data to be analysed by couple.

Data was provided by a total of 456 participants aged between 18 and 73 years old (mean age = 35.13 years; SD = 11.30 years). There was a majority of female respondents (valid per cent: female= 61.1%; male: 38. 9%). Within this dataset, there were 71 complete sets of data from couples.

7.2.2. Measures.

Demographic data was obtained for all participants. As well as providing details of their age, gender and length of current relationship, participants were asked where they met their partner (online or offline).

¹⁶ With thanks and acknowledgement due to Ian Hannent, (Senior Software Developer, Goldsmiths College, University of London) for programming and hosting the survey.

Eligibility – As per the study reported in Chapter 3, participants were asked to rate how eligible they think they are as a boyfriend/girlfriend, using a 7-point Likert scale (1 = ‘not very eligible’; 7 = ‘very eligible’). In addition, they were also asked to rate their partner’s eligibility, using the same scale.

The **Ten-Item Personality Inventory (TIPI)**; (Gosling et al., 2003) was completed, as per Chapter 3.

The **refined Ideal Partner Questionnaire (IPQ)** was used, as per Chapter 3. After completing the IPQ questions, participants were asked to rate the degree to which their current partner displays the ‘ideal partner’ characteristics they specified, using a 7-point Likert scale (1 = ‘current partner not at all like ideal’; 7 = ‘current partner very much like ideal’).

The **Relationship Assessment Scale (RAS)**; (Hendrick, 1988) is a seven-item measure asking respondents to subjectively rate their general relationship satisfaction on a 5-point Likert scale (1 = ‘low’; 5 = ‘high’); it is rooted in interdependence theory (Thibaut & Kelley, 1959), and is reliable and valid for both married and dating couples in a range of settings (S. S. Hendrick et al., 1998; Vaughn & Baier, 1999). The RAS is particularly useful, given its brevity, high correlation with other established measures and focus on satisfaction as an indicator of success (S. S. Hendrick & Hendrick, 1997). Global measures of relationship satisfaction also recognise that overall satisfaction is distinct from factors that predict satisfaction (Kurdek, 1992; Vaughn & Baier, 1999).

The **Experiences in Close Relationships Short Form scale (ECR-Short form)**; (Wei, Russell, Mallinckrodt, & Vogel, 2007) is a 12-item measure of general behaviour when in a relationship. Respondents use a 7-point scale (1 = ‘strongly disagree’; 7 = ‘strongly agree’) to rate the extent to which the statements reflect how

they operate in relationships (e.g., ‘It helps to turn to my partner in times of need’). It is founded on the three broad attachment styles established in the literature (Ainsworth et al., 1978) which informed the full ECR scale (Brennan et al., 1998), and demonstrates good reliability and validity - consistent with the full ECR scale (Wei et al., 2007).

7.3. Results.

7.3.1. Descriptive statistics. Table 7.1 shows the possible and observed ranges, mean scores (M) and standard deviations for all ideal partner characteristics, Big Five personality traits, attachment styles and eligibility rating. Consistent with previous studies, the RAS demonstrated high reliability for measuring relationship satisfaction ($\alpha=.91$). This was also the case for the ECR-short form measure of attachment ($\alpha=.74$ for both Avoidant and Anxious sub-scales). The alphas for the Big Five sub-scales have been presented for consistency but were more variable (ranging from .25 for Agreeableness to .79 for Extraversion). This is to be expected, particularly in a smaller sample; the relative unsuitability of alpha as a measure of reliability for the TIPI has been highlighted (Woods & Hampson, 2005) with developers emphasising instead the appropriateness of test-retest reliability (Gosling, n.d.). The M and SD figures for the current sample are consistent with those of previous studies in this thesis (see: Chapters 2 and 3) and therefore it can be noted that the TIPI demonstrates acceptable reliability.

Using a seven-point Likert scale where 1 indicates ‘not very eligible’ and 7 indicates ‘very eligible’, the mean self-rated eligibility score was 5.41. (SD 1.12). The most sought-after partner characteristic was the IPQ dimension Caring (M=.74, SD = .13), and the least desirable IPQ dimension was Image-conscious (M=.37, SD = .17).

Table 7.1.

Descriptive Statistics: IPQ Factors, Personality, Attachment Style, Eligibility and Relationship Satisfaction

LIWC category	Alpha	Range	Obs.¹	M	SD
Extraversion	.79	1-7	1-7	4.21	1.54
Agreeableness	.35	1-7	1-7	4.81	1.11
Conscientiousness	.59	1-7	1-7	5.03	1.32
Emotional stability	.71	1-7	1-7	4.61	1.40
Openness	.51	1-7	1.5-7	5.46	1.16
Ideal-partner ²	n/a	1-7	1-7	5.00	1.40
Self-rated eligibility	n/a	1-7	1-7	5.41	1.12
Rel. satisfaction ³	.91	1-5	1.4-5	3.34	.48
Avoidant attachment	.74	6-42	6-34	16.16	6.15
Anxious attachment	.74	6-42	6-42	23.40	7.10
				M	SD
IPQ Artistic				.53	.15
IPQ Athletic				.38	.12
IPQ Caring				.74	.13
IPQ Balanced				.59	.11
IPQ Sociable				.40	.15
IPQ Image-				.37	.17
IPQ Successful				.54	.17

Notes: ¹ Observed range; ² Ideal-partner perception: rating of the extent to which current partner matches ideal partner; ³ Relationship satisfaction.

7.3.2. Correlation analysis: actor IPQ and partner personality. Correlation analysis was conducted for each couple to test the relationship between personality and IPQ. In each case, one partner was randomly selected to provide the IPQ variables, with the other partner providing the Big Five personality variables; results are presented in Table 7.2.

Table 7.2.

Pearson Correlation Coefficients: Actor IPQ and Partner Personality Traits¹

	Extra.	Agree.	Consc.	Emot.	Open.
Artistic	.12	-.10	-.01	-.30*	.19
Caring	-.06	-.08	-.08	-.22	-.19
Balanced	.28*	-.14	.51	-.27*	-.22
Sociable	.45**	.23	.07	-.34**	.08
Athletic	.07	.05	-.06	.03	-.20
Imag. Con.	.25*	.00	-.00	.12	.13
Succ.	-.03	.20	.01	.03	.08

*Note: N=71; ¹Extraversion, Agreeableness, Conscientiousness, Emotional stability, Openness to experience; ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.*

Only two correlations were significant at $p < .01$: extraverts and Balanced partners are more likely to be in relationships with those preferring Sociable partners; H1a was partially supported and H1b, H1c, H1d and H1e were rejected. Correlations were repeated including both partners' IPQ and Big Five data points in the analysis with negligible difference to overall findings.

7.3.3. Correlation analysis: actor personality and partner relationship

satisfaction. Correlation analysis was conducted for each couple to test the relationship between personality and relationship satisfaction. In each case, one partner was randomly selected to provide the relationship satisfaction variables with the other partner providing the Big Five personality variables; results are presented in Table 7.3.

Table 7.3.

Pearson Correlation Coefficients: Actor Relationship Satisfaction and Partner Personality Traits¹

	Extra.	Agree.	Consc.	Emot.	Open.
Satisfaction	-.06	.03	-.06	-.01	.02

Note. ¹ Big Five traits: Extraversion, Agreeableness, Conscientiousness, Emotional stability, Openness to Experience; N=71; ** $p < .01$; * $p < .05$.

7.3.4. Correlation analysis: actor and partner IPQ.

Correlation analysis was conducted for each couple to test the relationship between their own preferences, as measured by the IPQ.¹⁷ One partner was randomly selected from each pair; results are presented in Table 7.4.

¹⁷ With thanks and acknowledgement due to John Rogers (Co-founder, Delosis Ltd. and University College London PhD candidate) for support with statistical analysis for this chapter.

Table 7.4.

Pearson Correlation Coefficients: Couple IPQ Preference¹

	Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Art.	.49**	-.11	-.18	-.12	-.14	-.23	-.27*
Car.	.02	-.14	-.11	.05	.06	-.04	-.43**
Bal.	-.09	.09	.22	-.15	.07	-.13	-.13
Soc.	-.12	-.02	-.05	.16	.01	.17	.15
Ath.	-.16	.09	.16	-.15	.41**	.02	.14
Ima.	-.09	.12	.19	-.09	.03	.11	.42**
Suc.	-.43**	-.10	.16	.16	.24*	.38**	.34**

Note. ¹ Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful; N=71 ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.

As hypothesised, there was a significant positive correlation between preference for an Artistic partner in each member of the same couple ($r=.49$, $p<.01$); H3a was supported. There was no significant relationship between partner scores on the Sociable and Successful domains; H3b was rejected. There was a significant positive correlation between preference for a Successful partner in each member of the same couple ($r=.34$, $p<.01$); H3c was supported. There was a significant negative positive correlation between preference for a Successful partner and preference for an Artistic partner in the same couple ($r=-.43$, $p<.01$); H3d was supported. In addition, there was a significant positive correlation between preference for an Athletic partner in each member of the same couple ($r=.41$, $p<.01$), and a significant positive correlation between one partner's preference for an Image-conscious partner and their own partner's preference for a Successful partner ($r=.42$, $p<.01$).

7.3.5. Moderator analysis: Eligibility, relationship length and relationship satisfaction. A bivariate Spearman correlation was conducted between self-rated eligibility and self-rated relationship satisfaction using all individuals' data after randomly selecting a single member of the couples who both returned data (N=385). This confirmed a significant positive relationship ($Rho=.15, p<.01$). This correlation, however, breaks down for participants (N=121) in very short (<6 months) or very long (> 20 years) relationships. To examine the moderation effect of relationship length on this correlation, therefore, only relationships between >6 months and < 20 years were considered. A multiple regression analysis was then conducted to test the hypothesis that relationship length moderates the relationship between self-rated eligibility and individual relationship satisfaction, such that people with low self-rated eligibility will report high satisfaction when they are in longer relationships. In the first step, two variables were included: eligibility and relationship length. These variables accounted for a significant amount of variance in relationship satisfaction $R^2= 0.07, F(2,214) = 8.05, p<.01$. An interaction term between eligibility and relationship length was created and added to the model. As shown in Table 7.5, this accounted for a significant proportion of the variance in relationship satisfaction, $\Delta R^2=.08, \Delta F(3,213) = 6.88, p<.01, b=.08, t(213) = 2.08, p.04$. As hypothesised, relationship length did have a moderation effect, however, it was opposite to the direction predicted: people with low self-rated eligibility report high satisfaction when they are in shorter relationships. In other words, eligibility affects satisfaction only for longer relationships. This is summarised in Figure 7.1 and illustrated in Figure 7.2; H4 was rejected.

Table 7.5

Relationship satisfaction predicted from eligibility and relationship length

Predictor	B	SE	<i>t</i>	Sig.
Intercept	3.38	.03	113.81*	< 2e-16
Eligibility	.08	.03	2.97**	.00
Relationship length	-.10	.04	-2.25*	.02
Eligibility:Relationship length	.08	.04	2.07*	.04
R2		.09		
Adj. R2		.07		
<i>F</i> for change in <i>R</i> ²		6.88**		

Notes

** *p* < .01, * *p* < .05.

Figure 7.1

Moderation model: Relationship length, eligibility and relationship satisfaction

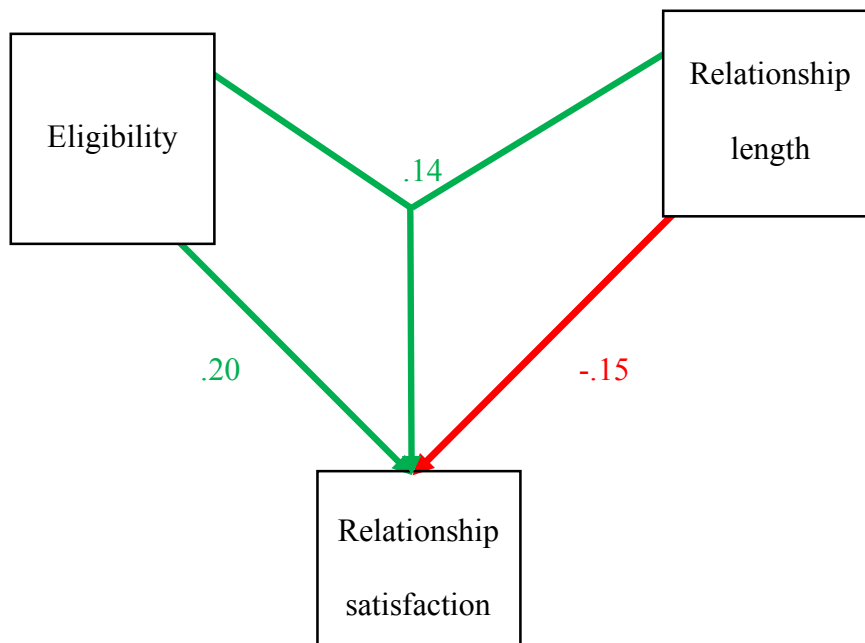
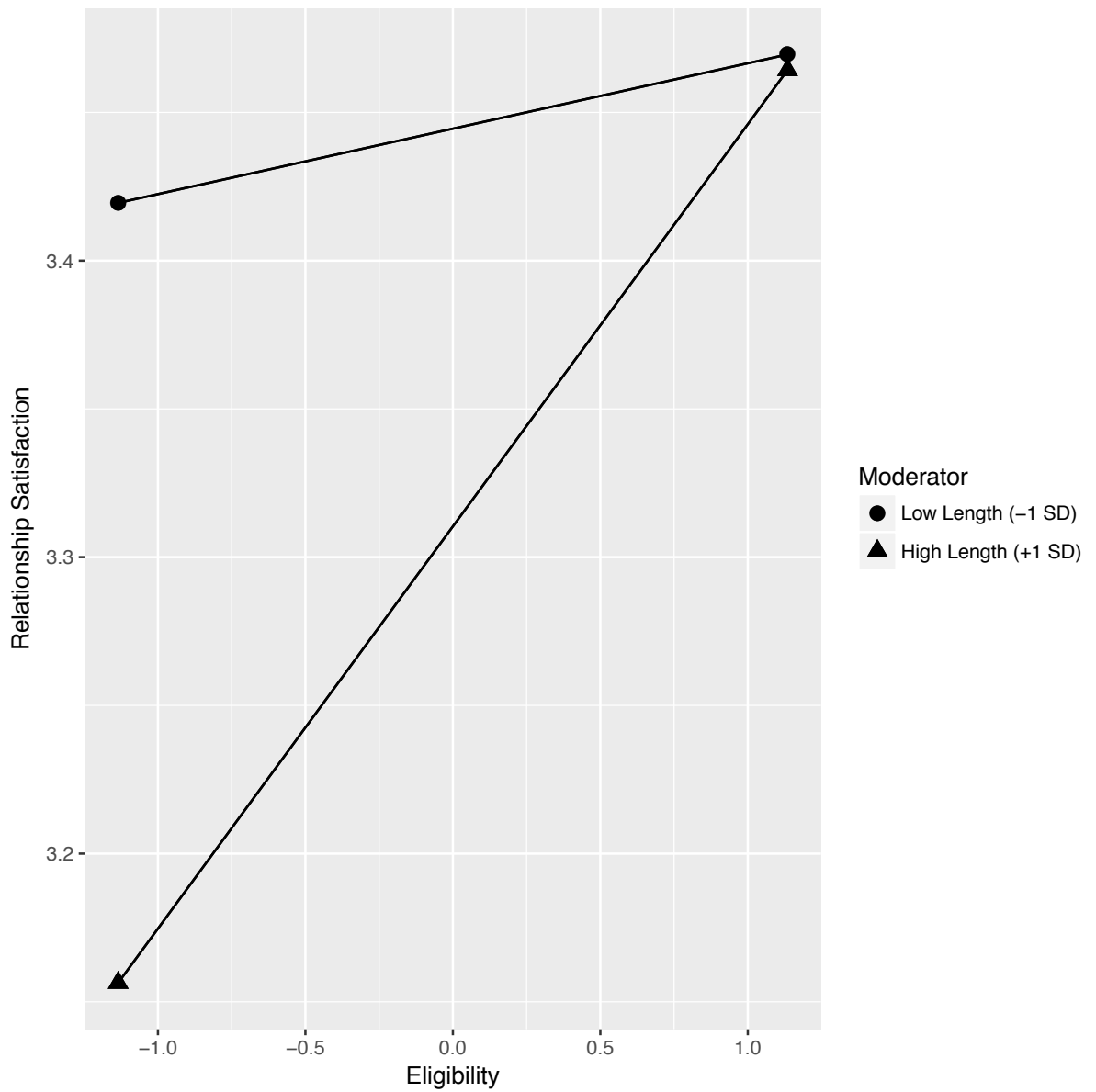


Figure 7.2

Simple slopes for relationship length and self-rated eligibility as predictors of self-rated relationship satisfaction



7.3.6. Correlation analysis: Ideal-perception consistency, eligibility and relationship satisfaction. Each individual's rating of the extent to which their partner displays the ideal characteristics specified by the IPQ (*IPQOutcome*) was correlated

with their own rating of relationship satisfaction. A strong, significant positive relationship was found ($r=.57, p<.001$). In addition, self-rated eligibility was also positively related to self-rated relationship satisfaction when looking at all data from individuals ($r=.46, p<.001$).

To understand data in the context of couples, a new variable was created to denote the difference between each member of a couple's rating of the extent to which their partner matched their ideal partner, as specified by the IPQ (*IPQOutcomeDiff*). A higher score denoted a bigger difference, a lower score indicates a more consistent judgement. Another new variable was created to denote the difference between each member of a couple's self-rated eligibility (*SelfEligDiff*) and their partner's partner-rated eligibility (*PartEligDiff*). In addition, for each couple, an overall relationship satisfaction score was created by combining both partner's individual relationship satisfaction scores (*SatisCouple*). Pearson correlations were conducted to determine the relationship between these variables; results are presented in Table 7.6. Personality factors were not controlled for given the previous non-significant relationships between these and relationship satisfaction.

Table 7.6.

Pearson Correlation Coefficients: Relationships between Self-Rated Eligibility, Rating of Partner Eligibility, Ideal-Perception Rating and Total Satisfaction in Couples.

	SelfEligDiff	PartEligDiff	SatisCouple
IPQOutcomeDiff		.37**	-.16
SelfEligDiff	-	.16	.04
PartEligDiff		-	.02
SatisCouple			-

Note:
*N=71; **p <.01; * p <.05. Values in **bold** represent correlations significant at p<.01.*

Using only couples' data, there was no significant relationship between higher self-rated eligibility consistency and overall relationship satisfaction ($r=.04$, $p>.05$); H5 was rejected. There was also no significant relationship between higher ideal-perception consistency and overall relationship satisfaction ($r=.016$, $p>.05$); H6 was rejected. People who were consistent in their judgement about their partner's eligibility were also more likely to be consistent in their judgment of the extent to which their current partner matched their ideal partner ($r=.37$, $p<.01$).

7.3.7. Correlation analysis: Individuals' relationship behaviour and expressed preference. Correlation analysis was conducted for each individual to test the relationship between their own attachment style and their own preferences, as measured by the IPQ. Results are presented in Table 7.7.

Table 7.7.

Pearson Correlation Coefficients: Individual Relationship Behaviour and IPQ Factors¹

	Art.	Car.	Bal.	Soc.	Ath.	Ima.	Suc.
Avoidant	.02	-.14**	-.10**	.06	.02	-.13**	.16
Anxious	.07	.04	.06	-.10	-.02	.06	-.01

Note: ¹ Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful; * $p < .01$; ** $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.

Having an anxious attachment style did not have an impact on preference.

However, people with an avoidant attachment style were less likely to seek a Caring ($r = -.14$, $p < .01$), Balanced ($r = -.10$, $p < .01$) or Image-conscious ($r = -.13$, $p < .01$) partner. Using only the data from couples, correlations between one person's IPQ preference and their partner's attachment style was also tested; no significant relationships were found ($p > .05$ in all cases).

7.3.8. Multiple regression: Analysis of factors predicting overall

relationship satisfaction. A forced-entry multiple regression analysis was conducted to test the relationship between individual ideal-perception, relationship behaviour (attachment style) and overall couple satisfaction. Results are presented in Tables 7.8 and 7.9. Eligibility ratings (self and partner), relationship behaviour (self and partner) and emotional stability (self and partner) were entered as block one. While no personality factors correlated significantly with relationship satisfaction, there is a wealth of research highlighting the importance of the Big Five dimension Emotional Stability for happy, successful relationships (see: Chapter 1) and its relationship with attachment style. This factor was therefore the only Big Five trait to be included in the model.

Table 7.8.

Multiple Regression Model for Eligibility, Relationship Behaviour, Emotional Stability, Ideal-Actual Perception and Relationship Satisfaction (Model 1): Standardised Weights and R square

Variables ¹		Couple Sat. ²
Beta weights	SelfEligDiff	.07
	PartEligDiff	-.01
	SelfAnxious	.15
	SelfAvoidant	-.29*
	PartnerAnxious	-.04
	PartnerAvoidant	-.41**
	SelfEmotStab.	.12
	PartnerEmoStab.	-.03
R2		.27
Adj. R2		.18

*Note: Self ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.*

Table 7.9.

Multiple Regression Model for Eligibility, Relationship Behaviour, Emotional Stability, Ideal-Actual Perception and Relationship Satisfaction (Model 2): Standardised Weights and R square

<i>Multiple</i>		<i>Couple Sat.²</i>
Beta weights	SelfEligDiff	.10
	PartEligDiff	.10
	SelfAnxious	.10
	SelfAvoidant	.01
	PartnerAnxious	-.19*
	PartnerAvoidant	-.05
	SelfEmotStab.	-.00
	PartnerEmoStab.	-.09
	Ideal-perception	.82**
R ²		.68
Adj. R ²		.64

*Note: ** $p < .01$; * $p < .05$. Values in **bold** represent correlations between personality factors and IPQ factors significant at $p < .01$.*

The most significant predictor of overall relationship satisfaction is the extent to which the individual rates their partner as matching the ideal specified in the IPQ; this explains an additional 46% of the variance in a couple's total relationship satisfaction ($\text{Adj}R^2 = .64$; $F(9,61) = 14.67$, $p < .001$). In Model 1, the most important predictor is the partner's relationship behaviour ($b = -.41$, $t(8,62) = -3.50$, $p = .001$);

specifically, the more the partner demonstrates avoidant attachment, the less satisfying the relationship is to the couple overall; H7 was supported.

7.4. Discussion.

7.4.1. How does the IPQ explain partner selection in established couples?

Several relationships between personality traits and IPQ factors were hypothesised, based on the assumption that findings from individual self-report data (see: Chapters 3 and 4) would translate to couples; however, this was overwhelmingly not the case, except for the IPQ factor Sociable. Where one person specifies that their ideal partner is Sociable, their actual partner is more likely to be extraverted and Balanced. This is likely to be a result of the finding that, as identified in Chapters 3 to 5, the IPQ captures much more variance in preference than personality alone and personality does not map neatly onto the seven IPQ factors. This is a particularly novel and interesting addition to the existing literature. Previous research has identified sociability as an important, cross-culturally applicable domain in partner preference (Shackelford, Schmitt, & Buss, 2005), which helps explain its prominence here. Within Shackelford et al., this concept of sociability conflates enjoyment of others' company with qualities related to "a pleasing disposition" (p. 448); this lends support to the validity of the IPQ Sociable factor. The present study's findings indicate that a preference for this domain predicts selection of a partner more likely both to enjoy company and to demonstrate effective inter-personal skills.

The results from the IPQ correlations are also interesting. Looking at the IPQ factors in turn, it can firstly be seen that high scores in the Artistic domain indicate distinct preferences; people who value an appreciation of aesthetics and creativity in others are drawn to each other romantically. This finding confirms results from previous studies within this thesis lending additional weight to this as a distinct and

notable extension of previous preference domains identified in the literature.

Likewise, people who value status, education, a goal-focus and achievement in others build romantic relationships with partners who feel similarly. This confirms extends previous studies driven by an evolutionary psychology perspective which have identified the importance of resources and status as universal ideals (Fletcher et al., 1999; Shackelford et al., 2005). It also extends these findings by providing a more nuanced description of resource-related concepts as perceived by people in romantic partnerships. Furthermore, this study found that where one member of a couple considers success to be an ideal partner trait, their actual partner is less likely to consider it important that someone is caring. This extends findings from previous research (Shackelford et al. 2005) which identified that desire for resources was traded-off against a desire for family. It also consolidates findings of the previous study in this thesis (see: Chapter 6) which found linguistic concepts of success negatively related to the IPQ Caring factor.

Where one member of a couple considers success to be an ideal partner trait, their actual partner is more likely to consider image-consciousness to be desirable. The latent correlation between the Image-conscious and Successful factors indicated a positive relationship (see Chapter 3) helping to explain this result. Finally, where one partner values athleticism in others, the other partner is also more likely to value this trait. It is known that value placed on health and wellbeing predicts partner preference (Regan et al., 2000). The IPQ Athletic factor is broader than this, however, encompassing enjoyment of physical activity as a pastime (e.g., “watches live sport events regularly”, “loves outdoor activities”); it is also known that concepts relating to drive and action underpin this trait (see: Chapter 6), indicating that value placed on athleticism goes beyond simply physical appeal. This is a particularly useful addition

to existing literature as it provides a broader functional explanation for a desire to meet an attractive, healthy partner than reproductive

7.4.2. What impact does self- and partner-rated eligibility have on relationship satisfaction? Given the novelty of the broad definition of self-rated eligibility, the findings from this study provide a useful original contribution to the literature. Additionally, there were interesting new findings about the interplay between eligibility and relationship length in terms of impact on relationship satisfaction. At the individual level, higher self-rated eligibility is associated with higher self-rated relationship satisfaction. Looking at couples' data, this study found that self-rated eligibility has no impact on relationship satisfaction for very short or very long relationships. In very short relationships, it is likely that the partner's behaviour has not yet had a chance to deeply impact on any sense of self. In very long relationships, however, the identity of the couple as a distinct unit (Blumstein, 1991) is likely to play a greater role than that of the self as a discrete, independent entity. For most relationships, relationship length plays an important role in moderating the impact of self-rated eligibility. People who consider themselves less eligible are likely to be happier when relationships are shorter. This could be because physical attractiveness is stronger where couples have known each other for a shorter period of time; this, in turn, has an impact on judgements of satisfaction (Hunt, Eastwick, & Finkel, 2015). This result could also be a product of the "honeymoon" period at the start of relationships, during which judgements of the partner and the relationship are generally highly positive. Where a person thinks they are less eligible, having positive feedback from the partner in the short-term is likely to have a beneficial impact on them. However, *hedonic adaptation* means that, as is the case with other heightened emotions during the initial phase of a relationship, this benefit is not likely to endure

(Jacobs Bao & Lyubomirsky, 2013). In addition, over time, the couple creates an identity as a unit, thus meshing (or even eroding) their individual characteristics (Blumstein, 1991; Feilmlee & Sprecher, 2000). If one person considers themselves to contribute less to that single entity (i.e., in terms of their own mate value), this could have a negative impact on the outcomes derived from it, including (but not limited to) relationship satisfaction. This finding could explain why for longer relationships, satisfaction declines for less eligible people. It also has some clear practical real-life implications both for self-help and therapeutic contexts. Understanding that self-rated eligibility can play a role in satisfaction for longer relationships but not shorter could help people reflect on and manage their own cognitions, feelings and behaviours at different relationship stages.

7.4.3. What are the most important predictors of relationship

satisfaction? Given that previous research has found self-rated Big Five traits to be important in predicting relationship satisfaction (Malouff et al., 2010), the absence of any significant relationships between personality factors and overall relationship satisfaction was surprising. However, despite some evidence that self-rated personality traits are more important than partner-rated traits in this regard (Watson et al., 2000), research has found that factor-level analysis is less useful than overall profile similarity in understanding satisfaction (Gonzaga et al., 2007). Given that this thesis is testing a novel scale, it is particularly interesting to look at trait-level correlations, but this could help explain the non-significant results.

Previous research has found that lower satisfaction results from couples differing in the priority they place on the same values, rather than from the values themselves (Eldridge & Gilbert, 1990). Results from the present study extend this notably by indicating an area where differing in judgement is not significant for

romantic happiness. It was predicted that where couples have more consistent ratings of the extent to which the other person was like their ideal partner, the happier they would be in their relationship; however, this was not the case. Testing individual-level data found a strong relationship in this regard: confirming previous research, people who think their partner is close to their ideal partner, as specified by the IPQ, are happier in their relationships (Fletcher et al., 2000; Knee et al., 2001; Murstein, 1972). This explained nearly half the variance in total couple satisfaction. Taking this finding together with the correlations between IPQ factors – which showed couples are not similar in preference across all domains - this also extends previous findings that preference is relative. We found that couples can differ in the extent to which they think their actual partner is close to their ideal partner without this affecting their overall relationship satisfaction. The most important thing is their own judgement of how closely their actual partner is to their ideal partner. This supports previous research finding that perceived, rather than actual, similarity is particularly important for positive relationship outcomes (Montoya et al., 2008). It could also be that different people have different thresholds for satisfaction, meaning that one person might require an extremely close match between their actual partner and their conceived ideal partner to elicit a high relationship satisfaction score. Conversely, for another, a bigger ideal-actual gap is tolerable without reducing satisfaction. It could be that this is a result of other factors affecting how a partner is judged; for example, previous research found that satisfaction is moderated by an ability to recognise a partner's strengths (Kashdan et al., 2017).

Finally, having an anxious attachment style did not have an impact on preference, yet results supported previous studies emphasizing the importance of secure (rather than avoidant) attachment for relationship satisfaction (Feeney et al.,

2000; Lowyck et al., 2008; Mikulincer et al., 2002; Shaver & Brennan, 1992a). While this finding was significant, overall, attachment style played a less important role than ideal-actual perception. In conclusion, the results of this study consolidate and extend the findings of previous studies in this thesis (see: Chapters 3, 4 and 6) – and make an original contribution to the literature - by indicating the importance of perception of IPQ ideals for, relationship satisfaction, and the role played by self-rated eligibility in this regard. In doing so, it confirms the potential usefulness of the IPQ as a framework for analysis of couple data, and builds on what is known from previous research about complementarity in partner preference.

7.4.4. Limitations. The survey is limited by its bias towards heterosexual couples; however, there is evidence that predictors of relationship satisfaction in lesbian and gay couples is broadly comparable to that of heterosexuals (Gottman et al., 2003; Kurdek, 1998). In addition, since data collection, a revised short-form version of the ECR has been produced, responding to technical limitations of the previous version used in the present study (Lafontaine et al., 2016). Authors note too that the validity of the current short-form scale was limited to a North American sample of heterosexual respondents. It would, therefore, be important to gather data using the most recent version, to test whether the results are replicated.

7.4.5. Recommendations for further study. Future research ought to include studies of longitudinal design to further assess the functionality of the IPQ; specifically, how it predicts relationship outcomes (e.g., satisfaction, duration, quality) over time. This could then be compared to the results obtained for the ISM (Fletcher et al., 2000, 1999) to determine its value and suitability in different contexts. It would also be important to assess ideals using the IPQ at critical relationship milestones, where ideals are likely to be more important than at other times (Eastwick

et al., 2014; Gagne & Lydon, 2004). Finally, this study focused on self-rated ideal-perception proximity. It would be useful to ask each partner in a couple to complete the IPQ based on their own values and behaviours (as well as specifying those of their ideal partner), as a way of confirming the validity of these findings. Ideally, this should be with short-form version in order that participation in the study is not unreasonably burdensome for participants.

CHAPTER 8: *General Discussion and Conclusions*

8.1. Overview

Close, personal relationships are fundamental to human existence (Acitelli et al., 2001; Berscheid, 1999; Finkel et al., 2017; C. S. Hendrick & Hendrick, 2000). Romantic relationships are the most important type of close relationship (Bartels & Zeki, 2004; H. E. Fisher, 1994b) as successful ones can deliver multiple social, health and wellbeing benefits (e.g. Braithwaite et al., 2010; Le, Dove, Agnew, Korn, & Mutso, 2010). Conversely, unsuccessful pairings can predict a range of negative outcomes (DiBello et al., 2015; Donald et al., 2006; Garimella et al., 2014). Relationship permanence is culturally normative in Western societies and, yet, relationship and marriage dissolution is overwhelmingly common (Battaglia et al., 1998; Gottman, 2014; US Department of Health and Human Services, 2015).

Maximising the likelihood of positive romantic outcomes and mitigating the risk of poor relationship experiences requires adaptive functioning when in a relationship (Feeney & Noller, 1992; Mikulincer & Shaver, 2009). Even more important is the ability to effectively select a compatible partner in the first place; however, this can be difficult. Many people do not know the specific characteristics that would render a potential partner a suitable match for them (Dijkstra & Barelds, 2010). Previous research has found that positive assortment is critical to romantic compatibility, as people seek partners who are like them; this includes both demographic assortment (e.g. Śmieja & Stolarski, 2016; Watson et al., 2004) and psychological assortment (e.g. Botwin et al., 1997; Buston & Emlen, 2003; Gebauer et al., 2012; Smeaton et al., 1989). It is also known that partner preference differs from one person to the next (Eastwick, Finkel, et al., 2011), as people conceptualise their ideal partner differently; making trade-offs between characteristics they desire strongly and those less important or desirable to them (Fletcher et al., 1999).

The most notable model for understanding partner preference (Fletcher et al., 1999) is rooted firmly within evolutionary psychology (Gangestad & Simpson, 2000) and contextualised within interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959). A broad, coherent model for understanding preference is missing from the literature; evidence from studies of contemporary vehicles for partner selection indicate a wide range of facets predict both relationship initiation and outcomes. In response, this thesis has focused on developing a broader model – the Ideal Partner Questionnaire (IPQ) - for understanding partner selection. In doing so, the trade-offs in traits and values that occur when forming and maintaining romantic partnerships have been tested. The IPQ model adopts a functional perspective, driven by personality theory and encompassing - without being limited to - evolutionary theory.

8.2 Aims of PhD

The current thesis aimed to: (1) develop a new scale for measuring ideal partner preference which takes a functional perspective and which encompasses but is not limited to evolutionary theory; (2) explore the latent factors and trade-offs that underpin ideal partner preference; (3) test the relationship of ideal partner preference with self- and objectively-rated eligibility, personality traits, and, attitudes to love and romance, (4) test ideal partner preference, as measured by the new tool, in established relationships. Each of these aims will be discussed in turn in this chapter with summary findings discussed in the context of existing literature and current technologies for partner selection. Figure 8.1 provides a map of the overall thesis, indicating which studies have addressed the aims.

Fig. 8.1 PhD thesis structure

PhD aim	Chapters & studies							
	Ch.2		Ch. 3	Ch.4	Ch. 5		Ch. 6	Ch. 7
	1	2	3	4	5	6	7	8
(1) Develop new scale for measuring preference	✓	✓	✓					
(2) Explore latent factors & trade-offs underpinning preference		✓	✓	✓	✓	✓	✓	
(3) Test the relationship of preference with eligibility, personality and attitudes to love	✓		✓	✓	✓	✓		✓
(4) Test ideal partner preference in established relationships								✓

8.3. Summary of Findings

Ideal partner preference is a relatively under-researched area. This thesis comprised a series of studies to permit the design and validation of a novel measure by which to assess preference, rooted in personality theory and adopting a functional perspective. Both instrument and study design sought to reflect the contemporary partner selection context, specifically, the diverse range of online and offline platforms used for this purpose and the importance of digitally-mediated data-gathering. Situating this thesis within the wider cultural landscape, in this way, aimed to ensure the measure is suitable for both online and offline use and therefore to broaden its potential applicability. The new framework also sought to synthesise evolutionary and personality theory and, in doing so, to provide a broader functional

perspective on preference than previously. Finally, the thesis considered eligibility both in terms of specific characteristics contributing to latent traits, and as a broad single concept, predicated on previous evidence that people can make accurate judgements about the characteristics and appeal of another person based on very limited data. This also provided an original contribution to the literature.

8.3.1. Development of a new scale for measuring ideal partner preference.

The first stage of this thesis was to design and pilot a novel measure of partner preference. Chapter 2 described two studies addressing this aim. In the first study, a 25-item, five-domain inventory was designed using a three-point Likert scale rating to test both the traits and attitudinal values preferred in a romantic partner. Items were based on the Big Five personality dimensions and typical themes found in (online and offline) matching services; they sought to test preferences in relation to lifestyle and leisure activities, as well as social and aesthetic values - including those from evolutionary psychology literature. Item wording was intended to prompt feelings or cognitions associated with particular situations or contexts, consistent with adopting a functional perspective (Lench et al., 2013). This version of the scale demonstrated fewer (and weaker) expected correlations with personality variables and was found to be structurally inadequate as a means of understanding preference.

To address the limitations of Study 1, Study 2 involved revising and expanding the IPQ scale in order that it addressed the same dimensions, but took a multi-dimensional forced choice format; this elicited more significant and informative results. Exploratory and confirmatory factor analysis indicated that ideal partner preference was informed by values, attitudes and behaviours relating to seven domains: *Artistic, Athletic, Sociable, Caring, Outgoing, Successful and Image-conscious*.

Chapter 3 reported a study which refined and tested the IPQ scale further (Study 3). The result was a final version of the scale, comprising the following seven distinct domains: *Artistic*, *Athletic*, *Sociable*, *Caring*, *Balanced*, *Image-conscious* and *Successful*. The Artistic domain relates to an appreciation of aesthetics and creativity, non-conformity and enjoyment of art-related activities. The Athletic domain relates to value placed on health and fitness-related pursuits, as well as enjoyment of sports activities and appreciation of the outdoors. The Caring domain relates to value placed on kindness, empathy, generosity and collaboration. The Sociable domain relates to enjoyment of being in diverse and novel social groups, as well as the value placed on disinhibition and popularity. The emotionally-stable domain relates to confidence, calmness, patience and mood management. The Successful domain relates to achievement in education and work, as well as financial status. The Image-conscious domain relates to appreciation of fashion, a commitment to following trends and value placed on physical appearance.

When compared to the most prominent model of partner preference in the literature (Fletcher et al., 1999), the IPQ makes a significant additional contribution. Fletcher et al.'s Ideal Standards Model (Fletcher et al., 1999) measure comprises mostly items of one or two words, with no contextual information. The IPQ items, while also being worded succinctly, encompass varying degrees of polarity within factors to enable more understanding of differentiation in preference. IPQ items range from highly polarised and definitive illustrations of the factor (e.g., for *Balanced*, "is always in a good mood"; for *Sociable*, "is always up for partying"), to more nuanced wording (e.g., for *Balanced*, "can get angry"; for *Successful*, "knows how to influence people"). While both the ISM and the IPQ In Fletcher et al.'s Ideal Standards Model (Fletcher et al., 1999) include self-focused items (e.g., "mature",

“self-aware”, “stable”) and other-focused items (e.g., “generous”, “communicative”, “good listener”), the IPQ wording also encompasses implicit drivers of behaviours (e.g., “thinks carefully before acting or speaking”) and illustrative contextual description (e.g., “keeps calm in difficult situations”, “is an authority in his/her own field”). This design satisfies the functional element of the tool and elicits preference in relation to both socio-cultural and behavioural dimensions; it also means that while there is some overlap between items in the ISM and IPQ, this is minimal as the IPQ seeks to provide a broader and more comprehensive conceptual representation than the ISM’s three domains (*Warmth-Trustworthiness*, *Status-Resources*, *Vitality-Attractiveness*). The IPQ’s latent traits are also treated as distinct from (although correlated to) demographic factors; this is unlike the ISM, in which demographic considerations are encompassed in the item list (e.g., “appropriate ethnicity”, “appropriate age”). In this way, studies using the IPQ can disaggregate the impact of different aspects of demography (e.g., as indicated in Study 3, which explored the impact of gender and sexuality specifically on levels of overall demand). These results, along with the other findings from Chapters 3 to 6 of this thesis will be discussed in the next section of this chapter.

Finally, the specific design of the IPQ tool provides a helpful contribution to the literature. Relationship psychology has progressed in a largely siloed way with evolutionary psychology dominating the field. This thesis responds to calls for a more coherent approach to study in this area, that takes into account dynamic and contextual factors related to dyadic interaction, and considers a broader understanding of function. The IPQ is founded on a synthesis of Big Five constructs and characteristics related to lifestyle choices, health behaviours, aesthetics, personal and family goals, and leisure activities. Both the IPQ factors ‘Successful’ and

‘Athletic’ encompass characteristics of partner choice well-established within evolutionary theory. This demonstrates its potential for use as a synthesising framework while also extending what is known from evolutionary theory by providing a more sophisticated understanding of drivers to prioritise physical attractiveness and resource in a romantic partner.

In summary, this thesis achieved its first intended aim: to develop, refine and test a new scale for measuring ideal partner preference. The measure overlaps with, and builds on (but does not simply replicate), the most prominent existing measure. As a result, the thesis provides a significant and unique contribution to the literature on preference.

8.3.2. Exploration of latent factors underpinning ideal partner preference.

Having established a valid measure, the next stage of the thesis was to further refine and validate the instrument and, in parallel, to demonstrate it adds to – rather than replicates – existing constructs. Demonstrating the value of the IPQ involved showing that it adds more than can be explained by existing dimensions currently known to explain variance in romantic partner preference. A wealth of research has evidenced the role of gender, Big Five and dark personality traits, behaviour in close relationships, romantic beliefs and love styles in romantic relationship processes and outcomes. Accordingly, the validation phase of this thesis focused on these areas.

8.3.2.1. *Personality and partner preference.* Chapters 3 to 6 of this thesis explored the latent factors that underpin ideal partner preference, as measured by the refined forced-choice IPQ instrument. Table 8.1 summarises the relationships found between IPQ factors and all personality traits (Big Five, Machiavellianism, psychopathy and trait-EI) tested in this thesis; these relationships are explained in detail in Chapters 3 to 5.

Table 8.1

Summary of Relationships Between IPQ Factors¹ and Personality²

	Big Five traits						Dark traits	
	EI	Extra.	Agree.	Consc.	Emot.	Open.	Mach.	Psych.
Artistic	n.s.	-	n.s.	-	-	+	n.s.	-
Caring	+	-	+	+	n.s.	-	-	+
Balanced	+	-	+	+	+	-	-	-
Sociable	n.s.	+	-	-	+	n.s.	+	+
Athletic	+	+	n.s.	+	+	n.s.	n.s.	+
Imag.	n.s.	+	-	n.s.	+	+	+	+
Succ.	+	+	-	+	n.s.	n.s.	+	+

Note: +: significant positive relationship; -: significant negative relationship; n.s.: no significant relationship. ¹*Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful.* ²*Trait-EI; Openness, Conscientiousness, Extraversion, Agreeableness, Emotional Stability, Machiavellianism, Psychopathy.*

Summarising these results by IPQ factor, it can be seen that people seeking an Artistic partner are more likely to be introverted, neurotic and open themselves; they are less likely to be conscientious. Those seeking a Caring partner are more likely to be agreeable, conscientious, emotionally intelligent, introverted and psychopathic; they are less likely to be open or Machiavellian. Those seeking a Balanced partner are more likely to be agreeable, conscientious, emotionally stable and emotionally intelligent; they are less likely to be extraverted, open, Machiavellian or psychopathic. Those seeking a Sociable partner are more likely to be extraverted, emotionally stable, Machiavellian and psychopathic; they are less likely to be agreeable or conscientious. Those seeking an Athletic partner are more likely to be extraverted,

conscientious, emotionally stable, psychopathic and emotionally intelligent. Those seeking an Image-conscious partner are more likely to be extraverted, emotionally stable, open, Machiavellian and psychopathic; they are less likely to be agreeable. Those seeking a Successful partner are more likely to be extraverted, conscientious, emotionally intelligent, Machiavellian and psychopathic; they are less likely to be agreeable. As summarised above, results in from Study 4 (see: Chapter 4) showed that the two Dark Triad traits studied correlate particularly strongly with the IPQ domains, moreso than the Big Five traits. This is an interesting and novel finding. It could be explained by the fact that both psychopathy and Machiavellianism are defined by their relational aspects (see: Chapter 4): in order to score highly as Machiavellian, people need to behave towards others in a manipulative and exploitative manner. Similarly, psychopathic people are those who are antisocial in behaviour, acting in a selfish and unfeeling way towards others. The IPQ items include characteristics which describe behaviour towards others both explicitly (e.g. "...is a team player"; "...is admired by others") or implicitly (e.g. "...throws great parties"; "...is influential"). It could be that this has driven the stronger correlations with the dark traits compared to the other personality factors studied. The TIPI items (Gosling et al., 2003) used to measure Big Five traits, for example, are much broader.

As a result, they are less consistently and directly related to the respondent's behaviour towards others (e.g. "Extraverted, enthusiastic"; "Anxious, easily upset").

Table 8.2 summarises how these findings relate to, and extend, previous research on positive assortment for personality in hypothetical and established relationships to make an original contribution to the literature. The evidence above is mapped by study in the table with the detail informing these judgements explained in full in Chapters 3, 4 and 5 of this thesis.

Table 8.2. *Thesis Findings in the Context of Previous Personality Research*

Trait	Previous evidence of positive assortment ¹	Relationship with previous research (Study number)	
		Confirmatory findings	Extension of findings
Extraversion	+	✓ (1, 2)	Pref. for Image-conscious partner (2) Negative pref. for Caring partner (2) Negative pref. for Artistic partner (3)
Agreeableness	++	✓ (2)	Pref. for Balanced partner (2) Negative pref. for Successful partner (2) Negative pref. for Image-conscious partner (2)
Conscientiousness	++	✓(1)	Pref. for Successful partner (1, 2, 3) Pref. for Athletic partner (2, 3) Negative pref. for Artistic partner (3)
Emotional Stability	+/-		Negative pref. for Image-conscious partner (2) Negative pref. for Artistic partner (3)
Openness	+/-		Pref. for Artistic partner (1,2)
Psychopathy	++	✓ (4)	Negative pref. for Artistic partner (4) Negative pref. for a Balanced partner (4)
Machiavellianism	+/-	✓ (4)	Negative pref. for a Balanced partner (4)
EI	+/-	✓ (5)	Pref. for Athletic partner (5) Pref. for Successful partner (5)

Note: ¹ ++=strong evidence, i.e. multiple studies, consistent findings; +=moderate evidence, i.e. some consistent evidence; -=weak evidence; i.e. a small amount of evidence; =+/-=mixed evidence, i.e. contradictory findings. ² Number in brackets denotes study number/s

In summary, there is compelling support for the findings of previous research across multiple studies in this thesis, indicating the validity and reliability of the IPQ tool. In addition, the factor structure of the IPQ enables extends what is known about the partner preference of specific personality types. Identification and specification of the construct Artistic is a particularly significant contribution to the existing literature, given its unique composition. Its correlations with personality, and negative correlations with other factors, could not have been predicted from the current literature and is not encompassed by existing measures. A preference for Artistic indicates priority placed on being eccentric and unconventional. Artistic people are imaginative and creative. They are likely to be spiritual and/or value a sense of spirituality. In addition to these characteristics, they are likely to enjoy and appreciate art-related activities such as theatre, music and poetry.

Similarly, the IPQ factor Successful is defined and interpreted broadly, adding considerably to what is known about preference in this regard from well-established personality and evolutionary theory. A preference for Successful indicates priority being placed on confidence and drive. Successful people can exert power and influence. While resources acquisition is a core component of the Successful domain, this is a nuanced concept – a preference for Successful indicates importance placed on both ability to acquire resource (having earning potential) and possessing significant resource (being rich). In addition, value is placed on working hard and working long hours.

8.3.2.2. *Love style, romantic beliefs and partner preference.* Table 8.3 summarises the relationships found between IPQ factors and the other individual

difference variables tested in this thesis: love style and romantic beliefs. These are explained in detail in Chapter 6.

Table 8.3.

Summary of Relationships Between IPQ Factors¹, Love Styles² And Romanticism³

	Eros	Ludus	Storge	Prag.	Mania	Agape	Rom.
Artistic	n.s.	n.s.	n.s.	-	+	n.s.	n.s.
Caring	-	-	n.s.	n.s.	-	n.s.	-
Balanced	n.s.	-	n.s.	+	-	n.s.	n.s.
Sociable	+	+	n.s.	-	-	n.s.	n.s.
Athletic	+	+	n.s.	+	-	-	n.s.
Imag.	+	+	-	+	n.s.	+	+
Succ.	+	+	-	+	n.s.	-	n.s.

Note: += significant positive relationship; -= significant negative relationship; n.s.=no significant relationship; ¹Artistic, Caring, Balanced, Sociable, Athletic, Image-conscious, Successful; ²Eros, Ludus, Storge, Pragma, Mania; ³Romantic Beliefs

Looking at each IPQ factor in turn, it can be seen that those seeking an Artistic partner are more likely to adopt a Manic love style and less likely to adopt a Ludic or Manic love style; they are also less likely to be romantic. Those seeking a Balanced partner are more likely to adopt a Pragmatic love style and less likely to adopt a Ludic or Manic love style. Those seeking a Sociable partner are more likely to adopt an Erotic or Ludic love style; they are less likely to adopt a Pragmatic or Manic love style. Those seeking an Athletic partner are more likely to adopt an Erotic, Ludic or Pragmatic love style; they are less likely to adopt Manic or Agapic love style. Those

seeking an Image-conscious partner are more likely to adopt an Erotic, Ludic, Pragmatic or Agapic love style; they are also more likely to hold romantic beliefs, and less likely to adopt a Storgic love style. Those seeking a Successful partner are more likely to adopt an Erotic, Ludic or Pragmatic love style; they are less likely to adopt a storgic or agapic love style. This makes a significant contribution to the existing literature by providing new knowledge about how specific manifestations of romantic beliefs impact on preference. In this way, the results provide us with a more detailed understanding of the latent assumptions about the characteristics, behaviours and values associated with the IPQ domains. They also advance thinking about romantic behaviours and preferences in the concept of partner selection. Given previous evidence on the importance of romantic beliefs for behaviour and outcomes in contemporary partner selection contexts (in particular, the work on susceptibility to online dating scams by Buchanan & Whitty, 2014), this has obvious real-life implications. Finally, the findings related to love style and eligibility provide particularly useful new insights indicating that Manic women may not be self-aware, whereas Ludic and Storgic women are. As discussed in Chapter 1 (see: section 1.1), “heartbreak” is costly: helping people understand how they approach love and romance, and how this relates to the sort of partner they consider to be ideal, could help them avoid the negative consequences of ineffective partner selection processes.

8.3.2.3. Gender and partner preference. Analysis by gender, as discussed in detail in Chapter 3, found that men are more likely than women to prefer an Artistic, Sociable and Image-conscious partner. Women are more likely than men to prefer a Caring, Balanced, Athletic and Successful partner. Overall, however, the most sought-after IPQ trait was Caring, which echoes more recent research about the importance

of associated qualities (e.g. those related to a nurturing, warm, compassionate manner) to both men and women.

As discussed in Chapter 1, there is a wealth of consistent evidence on gender-drive preference from evolutionary psychology. Results in this thesis extends current research, providing a significant addition to current knowledge, by offering a more nuanced understanding of the drivers of gender differences in partner choice. Results were also presented in the context of other demographic variables including age, religious and political status, sexuality and parental status also providing useful new learning for the field.. Notably, heterosexual women with children have significantly different preferences to other gender/sexuality combinations (positive preference for Caring, Balanced and Successful partner; negative preference for Sociable, Athletic and Image-conscious partner). Heterosexual women are more demanding overall than heterosexual men. Older women are more likely to want a partner who earns the same as them or more, while there was no effect for men in this regard. People seek partners of similar religious status (see Chapter 3). The finding that men prioritise appearance-related qualities supports previous research, however: that the IPQ factor structure distinguishes health-related attractiveness indicators (in the Athletic factor) from cultural indicators of attractiveness (in the Image-conscious factor). Physical attraction is critical for broader romantic attraction (Walster et al., 1966) and yet the IPQ factor Image-conscious is the least-preferred domain overall. This finding, when triangulated with the results from analysis of qualitative data in Chapter 7, indicates the multi-dimensional nature of physical appearance. Accordingly, this thesis indicates that physical appearance is important during partner selection, but that consideration in this respect is more than a simple assessment of physical attractiveness. These findings may be attributable to cultural and societal context.

The majority of the data for the studies is likely to have come from the UK and US. This assumption is based on the locations in which participation was advertised. We know that image, appearance and physical attractiveness is deeply embedded within these cultures and that looking visually appealing is highly prized. It could be that this context explains the very nuanced nature of aesthetic appeal, and the emergence of Image-consciousness as a distinct domain, evidenced in this thesis. This indicates the potential usefulness of further study in this area, particularly in different geographical contexts and ideally using a comparative design. Given the evidence on the importance of religious, ethnic and societal norms to partner selection (see: Chapter 1), it is also important to consider that, even within these findings, there is likely to be micro-level cultural variation that could not be evidenced by the present study design.

Similarly, it is also the case that cultural and social norms influence gender-driven expectations and behavioural preferences. Again, this could have influenced results such that re-running the factor analysis in a significantly different society could elicit different results. For example, global country comparison indicates that poorer societies place more emphasis on work than those which are richer (Inglehart, Basanez, & Moreno, 1998). In such contexts, it could be that preference for Successful is traded-off against more domains than just Artistic and Sociable. Looking at the Sociable domain as another example, it could be that the extent to which a society is inherently pro-social in nature could have affected results. The UK and US are essentially individualistic societies in contrast to collectivistic societies such as Japan, South Korea and Costa Rica (Schreier et al., 2010). Were studies to be repeated in collectivistic societies, it could be that preference for characteristics associated with the Sociable domain is prioritised more highly than for those associated with other domains.

8.3.2.4. Triangulating data on latent preference. In terms of the overall model, Study 3 found that demographic and the Big Five personality factors together partially explain variance in preference measured by the IPQ; figures range from 8% (for the Athletic model) to 25% (for the Artistic model). Subclinical psychopathy and Machiavellianism were found to account for a small amount more variance in factors (between 1% and 9%), although this was predominantly driven by psychopathy. Trait EI added only a negligible amount more (<1%) explanation of variance in ideal partner preference, although those high in trait EI were more demanding overall in terms of preference.

Qualitatively expressed preference was studied in Chapter 6. While this explained only a small amount of additional variance, this was largely attributable to the very brief nature of responses provided. The regression model which included LIWC-coded responses was significant at $p < .001$, and the correlations with the IPQ domains were generally as predicted, building confidence in the validity of the IPQ framework. The specific word categories that predict partner preference were also highly informative in respect to the trade-offs made between factors, providing a more detailed understanding of the components within each domain (see: Chapter 6 for a discussion). In doing so, the results contribute significantly and particularly to knowledge about relative and absolute preference (S. C. Clark et al., 2005; Figueredo et al., 2006). Most notably, the factor level word analysis illustrates the nature of the trade-offs made with the relationships between Artistic and Successful, as well as between Successful and Caring particularly prominent.

In summary, this thesis achieved its second intended aim: to explore the latent factors that underpin ideal partner preference. This exploration showed support for theoretically-driven hypotheses about positive assortment, gender-driven differences

in preference and relative preference. It established novel, distinct factors that people trade-off in partner selection. It also confirmed previous research that not everyone considers the same characteristics to be ideal, and extended this by providing more detail about how people prioritise. Of particular note is the distinctiveness of the Artistic factor – uncorrelated to all other factors - for which there was also evidence of positive assortment in this thesis. In terms of the particularly interesting trade-offs, those related to preference for a Successful partner are noteworthy as they add considerably to current sociobiological theory. As highlighted, preference for this factor was traded-off against both preference for an Artistic partner and for a Sociable partner. The Successful domain includes (but is not limited to) characteristics related to resource acquisition which also is a core component of evolutionary definitions of mate value. These trade-offs therefore represent particularly exciting findings that demonstrates the usefulness of the conceptual synthesis (evolutionary and personality theory, and, values and behavioural preferences) as set out in the IPQ model. Successful characteristics are also traded off against preference for a focus on leisure time (qualitatively expressed). This finding indicates both the usefulness of the multi-method approach to this thesis and the conceptual opposition of preference for a Successful to preference for behavioural activities associated with non-work time.

8.3.3. The relationship between ideal partner preference, personality and eligibility. The notion of eligibility was important to study given the centrality of this theme to relationship research. This thesis posits that “mate value” as defined by evolutionary theory is insufficient. In response, we explored the concept of eligibility using a broader definition. Data were gathered on eligibility, using both objective and subjective ratings of a person’s overall desirability as a romantic partner, taking into account all the positive qualities the person is likely to contribute to a relationship.

The first study in this thesis (see: Chapter 2) rated eligibility objectively, using three independent interviewers who each provided an overall eligibility score; this was found to be a reliable measure which is a useful finding that could inform future research methods. The studies reported in Chapters 3 to 8 of this thesis used a single, Likert-scale question to enable participants to provide a rating of their overall eligibility as a partner. Focusing on a subjective measure was intended to respond to evidence that understanding one's own mate value is both important for relationship success (Back et al., 2011) and is a determinant of partner choice (Edlund & Sagarin, 2010; L. Lee et al., 2008; Symons, 1987). The single-question measure also seems to be a relatively novel approach when compared to how eligibility has been assessed in previous literature; Lee et al., demonstrated the potential utility and validity of this approach using a 10-point measure (L. Lee et al., 2008) but this method does not appear to have been more widely used since. The findings indicate, therefore, that this could inform future research design as the results supported, and built on, previous research establishing both relative and absolute preference (S. C. Clark et al., 2005; Figueredo et al., 2006).

Looking at eligibility overall, the study reported in Chapter 3 found that, overall, people sought partners as eligible or more eligible than themselves. From studies reported in Chapters 3 to 5 it can be seen that that people who rated themselves as more eligible were more likely to be emotionally intelligent and romantic; they were more likely to seek Athletic, Image-conscious and Successful partners, and less likely to be psychopathic or Machiavellian. This finding supports socio-biological theories of partner selection, and also suggests that self-rated eligibility is driven by both extrinsic ideals and accurate self-assessment. Having said that, Study 3 found self-rated eligibility to correlate positively to all Big Five

attributes. Given that not all Big Five attributes correlate to relationship quality and satisfaction, this is an unusual finding worthy of further exploration.

Data were also gathered on the length of the previous longest relationship. It was hypothesised that this would be a proxy for eligibility and for adaptive interpersonal skills. Relationship length was positively related to eligibility, trait EI, an Erotic love style and - for men only - an Agapic love style; it was negatively correlated to psychopathy, Machiavellianism and a pragmatic or Storgic love style. For women only, it was also negatively correlated to a Ludic love style. Overall, people who had experienced longer relationships were more likely to seek Caring, Balanced partners and less likely to prefer Sociable partners. Taken in conjunction with the positive correlations between relationship length and agreeableness and conscientiousness, this initially seemed to indicate its usefulness as a proxy for eligibility. However, results from the study of couples (see: Chapter 7) indicated that relationship length does not simply equate to relationship success; rather it moderates the relationship between eligibility and satisfaction such that less eligible people in shorter relationships are happier.

Chapter 7's results also indicated that self-rated eligibility predicts relationship satisfaction at the individual level, but not at the couple level. Consistent ratings of self- and partner eligibility did not seem to play a significant role in determining relationship satisfaction. Given that previous research has found it more beneficial to select a partner who has a similar mate value (L. Lee et al., 2008), and that people recognise discrepancies in mate value (Shaw Taylor, Fiore, Mendelsohn, & Cheshire, 2011), this is an interesting finding and potentially an area that warrants further study. In summary, this thesis achieved its third intended aim: to test the relationship between ideal partner preference, personality and eligibility. These results both

confirm previous findings about the characteristics with universal appeal, while also identifying factors for which preference is more differentiated. The use of a single eligibility measure (tested subjectively and objectively) seems to be a under-utilised approach and, given the novel wording of the definition for this measure in the present thesis, thus makes a unique contribution to the existing literature on preference. It therefore adds considerably to the literature by demonstrating the validity of a simple definition of global eligibility such as the one used in the present studies. Results indicate the potential usefulness of future studies adopting a single measure approach.

8.3.4. Ideal partner preference in established relationships. The IPQ was developed and validated using individual data drawn from three different samples. The study reported in Chapter 7 then tested the IPQ in the context of established relationships. Both individuals in relationships and both partners within a couple completed the survey and analyses were conducted using both individual and paired data. A summary of findings, in the context of previous research on predictors of relationship satisfaction, are presented in Table 8.4.

Table 8.4.

Thesis Findings in the Context of Previous Relationship Satisfaction Research

Variable	Correlation with long-term relationship satisfaction ^{1l}	Relationship with previous research (Study number)		
		Confirmatory findings	Contradictory findings	Extension of findings
Extraversion	+	✓ (8)	✓ (8)	- pref. for Sociable partner
Agreeableness	+		✓ (8)	
Conscientiousness	+		✓ (8)	
Emotional Stability	+	✓ (8)	✓ (8)	- pref. for Sociable partner
Openness	+/-		✓ (8)	
Anxious attachment	-		✓ (8)	
Avoidant attachment	-	✓ (8)		- less important than ideal-actual perception in relationships
Ideal-actual perception	+	✓ (8)		- importance of ideal-actual perception supported only in individuals, not in couples - positive assortment in couples preferring Artistic, Successful or Athletic - complementary preferences (high Successful/high Image-conscious; high Successful/low Caring)

Note: ¹ +: significant positive relationship; -: significant negative relationship; +/- mixed findings, dependant on context. ³ Number in brackets denotes study number/s.

Couples are likely to be similar in their preference for Athletic, Successful and Artistic partners. Three IPQ domains relate to each other in a complementary way: Successful, Image-conscious and Caring. Previous research found people make a trade-off between success and romantic love when choosing a partner (Shackelford et al., 2005); the finding that people valuing success form relationships with people who place less value on caring both supports and extend this. The IPQ factor Caring contains items indicative of a preference for selfless, kind approach to love. The IPQ factor Successful contains items indicative of an individualistic goal-focus. The negative relationship between these traits in corresponding partners reflect the trade-offs made at the partner selection stage.

The most notable contribution this study makes to the literature is in respect of the importance of ideal-actual partner perception. The Ideal Standards Model posits that discrepancies between actual and expected partner qualities are significant because they trigger cognitive or behavioural adjustments (Campbell & Fletcher, 2015). The ideal partner, as specified by the IPQ, provides a useful way of defining the traits valued, and a valid frame of reference against which a person can assess their current partner. Previous research notes that lower satisfaction relates to differing prioritisation of certain values, rather than differences in the values themselves. This was not replicated in this study, which found that couples can differ in both ratings of eligibility (self and partner) and ratings of ideal-actual partner perception, with no significant difference made to relationship satisfaction. However, an individual's perception of the extent to which their partner is similar to their ideal partner, specified by the IPQ, was hugely significant, explaining more variance than any other factor including attachment style.

In summary, this thesis achieved its fourth intended aim: to test the utility of the IPQ measure in established relationships and, in doing so, significantly increase our understanding of preference in this context. Results indicate couples have similar and complementary preferences on IPQ domains, and that self-rating is more important than self-partner similarity rating on several dimensions. These findings extend the current literature on preference.

8.4. Limitations and criticism

8.4.1. The IPQ and sexuality. This thesis used a combination of purposive sampling (from two different populations of TV show applicants) and sampling of Internet users with links to psychology-related blogs and networks. Unfortunately, this meant that the samples within this thesis had limitations.

One noticeable bias was that towards heterosexual respondents. There is some evidence to suggest that emotional and relationship functioning in homosexual and heterosexual relationships is comparable (Gottman et al., 2003; Kurdek, 2004, 2005, 2006); however, existing research focuses largely on relationship outcomes in established couples, so it would be important to test the validity and reliability of the IPQ with a larger sample of non-heterosexual respondents in future. Consistent with the current thesis, future preference testing should ideally be in the abstract, at relationship initiation, as well in established relationships. Studies could also usefully compare correlates of IPQ scores in lesbian and gay couples with those of heterosexual couples, as well as test differences between the two groups in terms of IPQ predictors of relationship outcomes. Relationship stability, perceived quality and longevity have already been found to be higher in lesbian and gay relationships compared to heterosexual pairings, for example (Kurdek, 1998).

8.4.2. The IPQ and the Dark Triad. The Dark Triad has been demonstrated to play a significant role in determining the approach to, and outcomes from, close personal relationships. The two “darkest” of the Dark Triad traits - psychopathy and Machiavellianism – have been shown to be particularly significant factors in this regard. While these have provided helpful findings and enabled us to validate the IPQ, as anticipated, narcissism remains unexamined and this is a limitation of the thesis regarding its positioning in relation to the Dark Triad. Narcissism is associated with a range of negative outcomes in interpersonal relationships including, for example, increased conflict (P. S. Keller et al., 2014). Narcissists have distinct goals within the context of close personal relationships, which predict the sort of partners they seek (Brunell & Campbell, 2012). Narcissists’ partner-seeking behaviour is driven by their focus on extrinsic goals, which provide them with greater relationship satisfaction (Seidman, 2015). Fletcher et al.’s model (Fletcher et al., 1999) has been found to correlate with Narcissism (Seidman, 2015). Exploring the relationship between Narcissism and the IPQ would be useful for confirming the focus on extrinsic goals and extending this to provide more detail about the assumptions underpinning these goals.

8.4.3. The IPQ and other conceptual frameworks. The thesis has focused on refining and validating the IPQ as a new measure of preference to add to the existing literature. While this means it is necessarily focused, an obvious limitation is the lack of study of the IPQ’s relationship to existing frameworks for understanding trade-offs in preferences; the most notable of which are the Ideal Standards Model (Fletcher et al., 1999; Simpson et al., 2001) and the four ‘universal dimensions’ identified by Shackelford et al. (2005). The thesis is also limited by its focus on the Big Five personality model. Testing preferences against the Big Three or Big Two (as

per Gebauer et al., 2012) would have helped positioned the work in the wider personality literature, as well as help to confirm or further explaining findings. This thesis was positioned broadly within the context of interdependence theory. Within the parameters of this research it was not possible to examine IPQ preference in the context of other relevant theories of interpersonal dynamics (e.g. self-determination theory,); this is, therefore, a limitation.

8.4.4. The IPQ's cross-cultural relevance. The thesis used methods consistent with current contemporary partner selection platforms, i.e. open and closed digital platforms and offline instrument completion. Data on participants' geographical location was not captured within any of the surveys in this thesis. Three of the surveys (see: Chapters 2, 4 and 8) were advertised on a popular, US-hosted, psychology blog, and via researchers' university and personal networks. Given this, and the fact that the PhD was conducted in the UK, it seems reasonable to assume that the results are derived more from US and UK populations than of any others; however, this is not definitive. Even so, it is unclear how culturally representative the findings are. There are also significant cultural differences that exist even within the UK and US (and, indeed, within the wide range of other countries to which the IPQ may be relevant) on which this thesis cannot comment.

8.4.5. Comparison of IPQ completion across multiple platforms

The aim of this thesis was to develop a measure that is suitable for use in the diverse range of vehicles currently used for partner selection; these include both online and offline platforms. While participants in Study 1 (Chapter 2) completed the tool offline, this was the preliminary version of the IPQ which was later refined. In Studies 2 to 8 (Chapters 2 to 7), the IPQ tool was only available for completion via online survey platforms. While these were accessible via mobile, two websites were

not optimised for mobile. Within this thesis, reliability and validity of the measures across different platforms have not been compared; this is an obvious limitation.

The first version of the IPQ (see: Chapter 2) was a paper-based instrument, administered and explained to participants by researchers. This tool demonstrated good validity and was the foundation of the forced-choice tool that was refined and tested in studies two to eight. Recognising the extent to which partner selection takes place online or via mobile platforms, the refined IPQ was developed for online administration.

8.4.6. Accessibility of IPQ. High Internet penetration and mobile use is a phenomenon of developed economies. Most recent data indicates that 81 per cent of people in developed countries use the Internet, but that figure is halved in developing countries; this results in an overall global figure of 47 per cent (International Telecommunication Union, 2017). Figures for mobile phone use are similar, showing 90 per cent usage in developed countries compared to 41 per cent in developing countries - 49 per cent globally. If the IPQ is to be used more widely than in the US and the UK, it would be important to undertake more testing of both paper-based and online formats. The first version of the IPQ (see Chapter 1) was a paper-based instrument, administered and explained to participants by the researchers; this tool demonstrated good validity and was the foundation of the forced-choice tool that was refined and tested thereafter. Recognising the extent to which partner selection takes place online or via mobile platforms, the refined IPQ was developed for online administration (see: Chapters 2 to 7). While this provides a helpful indication of the potential usefulness of the IPQ across different modalities, the method of administration was not itself subject to experimental study; this is a limitation.

Similarly, this thesis tests the tool only with people for whom online surveys are accessible. Data on disabilities or access needs were not gathered as part of this thesis. People with visual or cognitive impairments, or those with learning disabilities may not be able to access it, or may find it more difficult to do so. Related to this, the tool is written in language as simple as possible; however, it has not been tested with groups of people with different impairments. It is also written in English and this is a limitation as it may have been completed by people for whom this was not a first language.

8.4.7. Population limitations. The studies reported in Chapters 1, 3, 4, 5 and 6 highlighted the limitations of an atypical personality profile of the sample (TV show participants). Media-based partner selection has grown considerably, however, since the commencement of this thesis. Reality-based television is now the norm, encompassing all aspects of everyday life, including health and wellbeing, housing and welfare, education, employment, travel and tourism, culture and crime. Accordingly, love and romance is a significant genre and dating-based television shows regularly top the broadcast charts. While the scale of participation in this activity can never expand to that of app-based or online dating, it has certainly become far more acceptable as a means of partner selection. Far more people know someone, or know of someone, who has taken part in this activity than would have been the case even five years ago; this is reminiscent of the evolution of online dating from “a marginal to mainstream social practice” (Ellison, Heino, & Gibbs, 2006, p. 416). It is reasonable to consider the possibility that – in the same way the personality profile of online daters very rapidly became non-significantly different to that of offline daters – if studies were replicated now, results may be more generalisable.

8.5. Implications and Future Research

8.5.1. Practical implications.

8.5.1.1. Support for people using partner selection services. As discussed in Chapter 1, partner selection is a rapidly changing landscape. While there is some evidence of evolved capabilities to undertake quick appraisals of potential partners (Grant-Jacob, 2016), this remains a challenging task (Best & Delmege, 2012; Botti & Hsee, 2010; Yang & Chiou, 2009). It is particularly challenging given that people choose partners based not only on physical attractiveness and psychological compatibility, but also considering a wide range of social, cultural and demographic factors. The IPQ provides the foundation of a model to help with this, capturing attitudinal preferences and the latent values associated with them, as well as psychological dimensions. The items also speak explicitly to behavioural choice, which responds to previous evidence of assortative mating on leisure interests (Houts, Robins, & Huston, 1996). The next step will be to ensure it is suitable for the dating marketplace. The wider context is one in which technology is advancing swiftly and there is a growing cultural need for immediacy. People expect, and are increasingly conditioned, to make quick decisions about attractiveness based on very limited information. A short-form of the IPQ needs to be developed to respond to this; this could be done by creating a version of the measure using the top one or two items from each domain, with the highest factor loading and testing its validity and reliability, including with the long-form version.

A short-form version of the tool also has the potential to support commercial providers; an evidence-based offer could be useful for companies needing to maximise their users' success, while also giving them more choice and control about the data they see about other users (Woodley, 2016). Having said that, there is also

evidence of growing offline dating service use (Knudson, 2016) which the IPQ is well-positioned to support.

8.5.1.2. *Psychotherapeutic relationship support.* There is a recognised deficit in knowledge about “skills” for romantic success (Davila et al., 2017). As introduced in Chapter 1, there are both economic and quality-of-life benefits to be realised by supporting people experiencing relationship dysfunction (Garrison, 2007). The IPQ could be used alongside other relationship-focused therapeutic interventions to help people understand their own ideals and values, and how they relate to those of their partner. Used as part of an intervention to support people earlier on in their relationship-focused therapy, it could help to mitigate the risk of poor outcomes in the first place. Declining divorce rates in the US and UK indicate later entry to marriage and fewer marriages taking place - rather than increased relationship success (Lehrer & Son, 2017; Office for National Statistics, 2016; Rotz, 2015). Less societal pressure to marry means that people can afford to be more choosy when selecting their partner (Kennedy & Ruggles, 2014); as a corollary to this, cohabitation rates are increasing (Kuo & Raley, 2016). An increasing understanding of partner preference, both in individuals and dyads, could respond to these social trends - at least in part. Again, helping people understand what is important to them and the trade-offs they make in partner selection could help them make better choices in the first place, or help them to understand and make fewer costly choices.

8.5.1.3. Broader applicability of ‘matching’ technologies. Even several years ago, research leaders in the online dating industry had identified the applicability of compatibility services to other areas of life; for example, in university accommodation (matching roommates) and industry (matching team members) (Hochschild, 2012). The IPQ, or an adapted version of the measure, could be useful across different contexts; this would require further study.

8.5.2. Implications for partner selection research. Relationship science, compared to other areas of psychology, is a relatively young discipline. There is currently a drive to increase research in this area to help people address the challenges posed by contemporary dating (see: Chapter 1). There is a particular need to adopt an integrative approach to answering relationship psychology questions (Finkel et al., 2017); this thesis contributes to the growing evidence base seeking to achieve this.

This thesis also highlights the potential usefulness of relatively under-utilised methods in this field. Correlational analysis is the cornerstone of relationship research (M. L. Cooper & Sheldon, 2002) and, thereby, provides the methodological foundation for this thesis. At the same time, there has been an over-reliance on this type of analysis within the field, with requests made for more complex study designs (M. L. Cooper & Sheldon, 2002). To this end, this thesis adopted a forced-choice design for the IPQ tool and, subsequently, used item response theory to support the analysis. The use of regression modelling to explore couple data and the triangulation of results from: individual-level and couple-level analysis; as well as quantitative and qualitative analysis, also makes a helpful methodological contribution. Having demonstrated utility in this thesis, future research could consider adopting - and building on - similar methods.

Future research could also address the limitations highlighted in Section 8.4: this could include replicating studies with different population samples including people of different ages and sexualities, and, with different access needs. Given the recognised need to ensure partner preference models are cross-culturally transferable (Gerdvilyte & Abhyankar, 2010), it would be important to test the IPQ with population samples from different countries - comparing and contrasting results. This should consider wider cultural norms; for example, Western societies are individualistic in nature. The notion of a person as an individual with unique needs, preferences and goals is fundamental to policy, legislation and culture. This individualism (which contrasts with social norms in other countries) has been an important driver of roles and expectations within romantic relationships and preference could usefully be explored against this backdrop (Jimenez-Arista et al., 2016). It would also be useful to study the administration of the IPQ in different modes (online vs. offline; self-completion vs. researcher completion) to ensure its usefulness and validity in different contexts. This work should seek to ensure the tool retains validity and reliability.

Future research could explore the relationship between IPQ factors and domains within other established preference and personality models (with the Ideal Standards Model as priority), and other models of interpersonal dynamics. Given the interesting findings regarding preference for an Artistic partner, it may be useful to study the IPQ's relationship with psychological measures that allow for further exploration of this theme, such as the Classification of Character Strengths (Peterson & Seligman, 2004) which includes a dimension that references an appreciation of beauty. This work could also be linked to further study aiming to deconstruct eligibility. The findings of this thesis support the utility of both self-rated and other-

rated eligibility. There were also some unexpected findings correlations between self-rated eligibility and personality. Therefore, future research could test the relationship between these constructs, as measured by methods in this thesis, in different populations and against different character or personality frameworks.

Given previous evidence - that some elements of preference are not stable over time - it would also be useful for future studies to adopt a quasi-experimental and/or longitudinal design that would enable the robust comparison of ideals at different stages. The research on the importance of “turning points” in relationships – single events which have a particular impact on the relationship trajectory – could inform this (Anusic & Schimmack, 2016). Ideals are more important the more long-term the relationship sought, yet evidence on the impact of partner selection strategy (long-term vs short-term) as a moderator of preference is lacking (Eastwick et al., 2014). Eastwick et al. identified some methodological challenges in addressing this: specifically, that people categorically not seeking long-term relationships would seek the exact opposite of their ideals. However, generating such a hypothesis would be theoretically troublesome (Eastwick et al., 2014). Instead, it is suggested that researchers test other individual difference variables, which could explain preference in different contexts; the IPQ could be useful in this regard given its broad conceptualisation of ideals.

Finally, as discussed in detail in Chapter 6, the qualitative analysis in this thesis is limited by the brevity of the responses provided. Nonetheless, significant results were derived and the requirement to provide only a brief description of ideal partner qualities in many dating apps ensures the experimental paradigm mirrored the real-world context. Even without text limits, the vast majority of people using online dating platforms keeps narrative text short (Fiore et al., 2010). To be more confident

about generalisability, however, it would be important to replicate the study with a bigger text sample.

8.4. Overall Conclusions

Firstly, the current thesis developed a new scale for measuring ideal partner preference which adopted a functional perspective and which was rooted in an applied understanding of personality theory in a real-world partner selection context. This was delivered through the development, piloting and validation of a novel, reliable and valid measure – the IPQ - to assess latent traits underpinning preference.

Comprising seven distinct domains – Artistic, Caring, Sociable, Balanced, Athletic Image-conscious and Successful – the IPQ provides a broader definition of preference than is specified in the most prominent existing measure. The Artistic factor provides a particularly significant addition to the existing literature given its unique relationships with established individual difference constructs, and with the other six IPQ latent factors. This thesis established firmly that those seeking an Artistic partner have distinct preferences which is important given that this concept does not feature explicitly and distinctly in existing preference frameworks. The Successful factor also provides a valuable addition to the literature; findings demonstrate that success-related characteristics are complex and nuanced, relating to more than just status and resources. These results also demonstrate the usefulness of adopting an integrated theoretical perspective – encompassing both personality and evolutionary theory - to understanding partner preference.

Secondly, the thesis explored the latent factors and trade-offs that underpin ideal partner preference. Results both support and extend previous research; the trade-off between the Successful and Caring factors, for example, was contextualised within current theory on romantic beliefs. The trade-off between Artistic and Successful was

also interesting. Helping to explain this, in-depth analysis of qualitative expressed preference found that preference for a Successful partner can be assumed to be at the expense of leisure related activity and that preference for an Artistic partner is associated with lower goal-focused motivation and risk-taking. Preference for a Sociable partner was associated with lower focus on work, home and family indicating implicit assumptions that are made about the (in)compatibility of these domains.

Thirdly, validation of the IPQ demonstrated that it captures more variance in preference than can be explained by gender, Big Five and dark (psychopathic and Machiavellian) personality traits, behaviour in close relationships, romantic beliefs and love styles. Given the wealth of research that indicates the importance of individual differences in respect of these domains for romantic relationship, this represents a significant contribution to the literature. Of particular note is the IPQ's ability to distinguish health-related attractiveness from aesthetic indicators, providing a more nuanced understanding of gender-differentiated preference for physical appeal. In short, this thesis provided compelling support for the findings of previous research in respect of both positive assortment and complementary preference, across multiple studies, indicating the validity, reliability and utility of the IPQ measure.

Finally, the thesis tested ideal partner preference, as measured by the new tool, in established relationships. Evidence for both positive assortment (in respect of preference for Artistic, Athletic and Successful partners) and complementary preference (in respect of Successful, Image-conscious and Caring factors) was identified. The thesis confirmed previous findings that an individual's perception of the extent to which their partner is similar to their ideal partner is hugely significant. This was found to predict overall couple satisfaction (rather than just individual

satisfaction) and explained more variance in this regard than even attachment style; a significant addition to the current literature. In addition, the thesis found that couples can differ on their ratings of each other's eligibility without negatively affecting relationship satisfaction. This is particularly interesting given the wealth of previous research indicating better outcomes when couple's "mate value" is broadly equivalent.

While some results within this thesis are modest, "our principle aim as scientists is to explain, not simply predict, behaviour" (Petrides et al., 2007, p.286); this has been achieved by focusing the study on acquiring a detailed understanding of the IPQ factors and their relationship to existing constructs. The thesis used innovative methods to do this – namely use of the LIWC software for qualitative text analysis, and analysis of forced-choice dating using an Item Response Theory approach. These methods also provided an additional contribution to the relationship research literature given that they addressed some of the previously recognised limitations in methods used.

That this thesis comprises large samples from four different populations is a strength. Notable limitations have been identified and discussed including: the demographic and psychometric biases of these samples (a bias towards heterosexual respondents and those with above-average TIPI and dark trait scores); accessibility limitations (English-language instrument, completed either online or on paper); and, the focus on the two "darkest" of the Dark Triad traits (a deliberate omission of Narcissism).

There is strong evidence to indicate that people often have only limited understanding their own partner preferences yet making poor romantic partner choices is hugely costly. The IPQ responds to this by offering a promising new

preference framework. This thesis describes the IPQ's potential for broad applicability and considers how it could be utilised in both commercial and psychotherapeutic settings. Priority next steps for research have been identified and discussed and include, in particular, studies to: validate a short-form version of the IPQ; test the measure against existing preference frameworks; and, determine its cross-cultural reliability and validity.

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APPENDIX: *Ideal Partner Questionnaire*

Imagine that you are able to **design your ideal partner**. For each pair of options listed below, please state which you would prefer in a partner, by placing an X in the relevant box. You can only choose one option in each case. In some cases, you may find that neither option is desirable, in which case, you should still indicate which option you dislike the least. Whether you choose to answer the questions thinking of a specific individual or not, please indicate what your preferred option is every time. Identifying your honest preferences will help us understand the determinants of romantic compatibility.

Would you prefer your partner to be someone who:			
1.	...goes to theatre regularly	OR	... watches live sport events regularly
2.	...always knows where to find an interesting art gallery	OR	... always gets the best seats for sport events
3.	...is interested in music	OR	...is interested in exercise
4.	...has a vivid imagination	OR	...loves outdoor activities
5.	...loves poetry	OR	...is polite
6.	...likes art	OR	...empathises with others
7.	...is good with words	OR	...is a team-player
8.	...loves classical music	OR	...is a peacemaker
9.	...is creative	OR	...is comfortable in his/her own skin
10.	...is unconventional	OR	...is sensitive to criticism
11.	...is artistic	OR	...is moody
12.	...is eccentric	OR	...is placid
13.	...is knowledgeable about films	OR	...is lively
14.	...is inventive	OR	...is outgoing
15.	...can paint	OR	...is "a party animal"
16.	...is a dreamer	OR	...has many friends
17.	...would love to write a book	OR	...would love to make lots of money
18.	...has a creative job	OR	...has a successful career
19.	...is "down-to-earth"	OR	...is very driven
20.	...understands art	OR	...has good career prospects
21.	...is innovative	OR	...is beautiful
22.	...is unimaginative	OR	...prioritises looking good
23.	...is original	OR	...is striking looking
24.	...is arty	OR	...is unfashionable
25.	...keeps very fit	OR	...is friendly

26.	...loves to go to football matches	OR	...is selfish
27.	...eats organic food	OR	...cares about others' feelings
28.	...takes care of their appearance	OR	...is compassionate
29.	...is healthy	OR	...is easy-going
30.	...is sporty	OR	...is calm and collected
31.	...eats unhealthily	OR	...is always in a good mood
32.	...does not like playing sports	OR	...is emotionally-balanced
33.	...is physically active	OR	...loves being centre of attention
34.	...is a regular sports competitor	OR	...is always up for partying
35.	...enjoys being outdoors	OR	...is shy
36.	...smokes	OR	...makes having fun a priority
37.	...is athletic	OR	...is career-minded
38.	...has lots of energy for outdoor	OR	...is successful
39.	...goes to the gym	OR	...is rich
40.	...is careless about his/her own	OR	...is powerful
41.	...is obsessed with keeping fit	OR	...keeps up with the latest fashion
42.	...sits around a lot	OR	...wears cool clothes
43.	...is fit	OR	...is trendy
44.	...likes activity holidays	OR	...takes care of his/her appearance
45.	...is kind to others	OR	...thinks carefully before acting or
46.	...is sympathetic to people's	OR	...rarely loses his/her temper
47.	...gets on with well with most	OR	...is calm under pressure
48.	...makes time for others	OR	...gets upset easily
49.	...looks after other people	OR	...seeks excitement
50.	...is warm	OR	...enjoys parties
51.	...is deeply moved by others' misfortunes	OR	...is the life and soul of the party
52.	...always considers others' needs	OR	...enjoys going to bars and clubs
53.	...is understanding	OR	...is wealthy
54.	...is selfless	OR	...is motivated to succeed
55.	...is helpful	OR	...is determined to do well in life
56.	...makes time for people	OR	...manages a busy workload
57.	...is tolerant	OR	...is stylish
58.	...is charitable	OR	...always looks good
59.	...goes "the extra mile" for others	OR	...is admired by others
60.	...is supportive	OR	...is attractive
61.	...is balanced	OR	...is comfortable in groups
62.	...thinks rationally	OR	...loves a drink or two
63.	...is level-headed	OR	...throws great parties
64.	...doesn't get agitated easily	OR	...makes friends easily

65.	...is temperamental	OR	...is highly organised
66.	...is calm and composed	OR	...knows how to influence people
67.	...keeps calm in difficult situations	OR	...is a leader
68.	...can get angry	OR	...spends a lot of time working
69.	...is reasonable	OR	...is fashionable
70.	...is neurotic	OR	...is obsessed with fashion
71.	...doesn't get stressed	OR	...stands out in a crowd
72.	...is easy-to-read	OR	...dresses well
73.	...has many friends	OR	...is well-educated
74.	...loves meeting new people	OR	...is at the top of the career ladder
75.	...has a busy social life	OR	...is entrepreneurial
76.	...prefers being in company than	OR	...is an authority in his/her own field
77.	...makes friends easily	OR	...wears designer clothes
78.	...has a big circle of friends	OR	...looks good
79.	...is sociable	OR	...follows fashion
80.	...spends a lot of time in groups	OR	... dresses well
81.	...is hard-working	OR	...is drop-dead gorgeous
82.	...is good with money	OR	...has model good-looks
83.	...is influential	OR	...follows fashion
84.	...prioritises work	OR	...prioritises looking good