



## Men's general intelligence and heterosexual romantic relationship outcomes

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### ABSTRACT

Research has established that higher general intelligence is associated with a range of favorable life outcomes, including academic and workplace achievement, and socioeconomic status. Recent work also has explored the potential role of specific cognitive abilities in navigating romantic relationship problems, and mitigating undesirable relationship outcomes such as infidelity and partner-directed violence. Less research has investigated the associations between *general* intelligence and outcomes for romantic relationships. The present research analyzed data secured from a sample of heterosexual, partnered men ( $N = 202$ ) to investigate associations between men's intelligence and several variables related to romantic relationship phenomena and functioning, including partner-directed insults, desire for power in intimate relationships, and erectile dysfunction. Results revealed that men's general intelligence, and in particular, their performance on letter number series items, was negatively associated with a range of aversive, partner-directed behaviors including insults, sexual coercion, and cost-inflicting mate retention tactics, as well as several individual difference variables including men's sociosexual orientation, erectile dysfunction, and psychopathy. Conversely, men's general intelligence was positively associated with their self-reported relationship investment.

Considerable research has established connections between general intelligence and positive life outcomes including life expectancy (Deary et al., 2004), academic success (Kuncel et al., 2004), socioeconomic status (Gottfredson, 2004), and workplace achievement (Gottfredson, 1997). Conversely, general intelligence is negatively associated with several undesirable outcomes, including criminality (Beaver et al., 2013), dementia (Deary et al., 2004), and cardiovascular issues (Deary et al., 2004; Starr et al., 2004). Additionally, some research has found associations between general intelligence and aspects of romantic relationships. For example, general intelligence is negatively associated with divorce (Gottfredson, 1997), and longitudinal studies observed that individuals with higher general intelligence are more likely to be married by their mid-30s to mid-40s (Terman & Oden, 1959). However, other investigations using large-scale surveys suggest that higher general intelligence may be detrimental to some aspects of romantic relationships, including fertility (Kanazawa, 2014) and frequency of sex (Hopcroft, 2006).

One area of scholarship has investigated how members of a romantic couple navigate issues related to their relationship. Most of this

literature has not investigated relationship maintenance as a function of general intelligence, but instead has attempted to assess the effectiveness of the strategies that couples use to resolve relationship problems. One recent review synthesized this literature to propose a model of relationship problem-solving (Baker & McNulty, 2020). The Relationship Problem Solving (RePS) model attempts to reconcile disparate findings within the relationship problem-solving literature regarding the effectiveness of oppositional and cooperative strategies. Baker and McNulty (2020) argue that, in addition to contextual factors such as the severity of a problem, individual differences in affect, self-efficacy, and cognitive abilities may impact an individual's ability and motivation to confront relationship problems.

One study observed that working memory capacity was positively associated with a decrease in the severity of relationship problems for newlywed couples (Baker et al., 2020). That is, individuals who could retain more information regarding their partner's description of a relationship problem and possible solutions reported a decrease in the severity of that problem at a one-year follow-up. Greater working memory capacity may have allowed members of these couples to better

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encode information relevant to relationship problem-solving, thus facilitating more successful navigation of relationship problems.

Thus, limited work suggests that specific cognitive abilities facilitate successful relationship maintenance. Conversely, another area of scholarship has investigated the idea that general intelligence may be *negatively* associated with success in forming and maintaining romantic relationships. Kanazawa (2004) presented a theory of general intelligence which proposes that *g* is a domain-specific ability that evolved to address evolutionarily novel problems, and that *g* is distinct from other domain-specific mechanisms that evolved to address evolutionarily recurrent problems. Kanazawa argues that, because many elements related to the formation and maintenance of romantic relationships were evolutionarily recurrent, high-*g* individuals have no advantage in these domains relative to low-*g* individuals.

Indeed, evidence from subsequent investigations supports Kanazawa's (2004) argument that *g* confers no advantage in solving problems related to mating and romantic relationships. Using data from the 1989–2000 General Social Survey, Hopcroft (2006) observed that intelligence (measured using number of words correct on a vocabulary test) had no effect on frequency of sex. Further, Kanazawa (2014) found that greater childhood intelligence was associated with self-reported intention to remain childless at age 23, and for women only, greater childhood intelligence was associated with a greater likelihood of being childless at age 47. Thus, individuals with higher general intelligence may be less likely to form long-term relationships and produce offspring than their lower-*g* counterparts.

The available literature supports somewhat disparate conclusions regarding the association between general intelligence and success in navigating romantic relationships. The present study was intended to address these issues using exploratory analyses. The goal of the present study was to investigate the pattern of associations between general intelligence and romantic relationship variables that historically have been negatively (e.g., sexual coercion, insults, cost-inflicting mate retention, psychopathy) or positively (e.g., degree of investment and commitment) associated with relationship satisfaction in a sample of heterosexual, partnered men. Additionally, we used multiple linear regression to determine whether the individual subscales of a general intelligence test uniquely predicted men's relationship variables.

## 1. Method

### 1.1. Participants and procedure

Participants were 244 men in heterosexual romantic relationships for at least six months and recruited online using Prolific. Participants were paid \$10.00 USD upon survey completion. These data were collected in September 2020 as part of a larger project concerning whether erectile dysfunction is associated with men's jealousy and partner-directed behaviors (e.g., partner-directed violence). Part of that larger project has been reported elsewhere (i.e., Vance et al., 2023), but the present study investigated associations between men's general intelligence and outcomes for heterosexual romantic relationships. We excluded data from 42 participants for not completing all survey items. The final sample comprised 202 men with an average age of 25.34 years ( $SD = 6.66$ ;  $range = 18$ –65 years). The mean relationship length of the final participants was 3.36 years ( $SD = 3.66$ ;  $range = 6$  months–36 years;  $median = 2.5$  years).

### 1.2. Measures

#### 1.2.1. General intelligence

The 16-item version of the International Cognitive Ability Resource (ICAR; Condon & Revelle, 2014) was used to assess general intelligence. Condon and Revelle (2014) provided evidence for convergent validity, reporting significant correlations between 60-item ICAR scores and self-reported scores on standardized tests, including SAT – Critical Reading

( $r = 0.46$ ), SAT – Mathematics ( $r = 0.54$ ), and ACT ( $r = 0.49$ ), as well as significant correlations between the 16-item ICAR and the Shipley-2 ( $r = 0.81$ ). The 16-item ICAR includes four distinct types of items. The Letter and Number Series items ask participants to identify the next position in a series of letters or numbers. The Matrix Reasoning items each contain a  $3 \times 3$  grid of geometric shapes. Each grid contains a pattern among the shapes, with one of the shapes missing, and asks participants to identify which of six options belongs in the missing space (i.e., which shape completes the pattern for its respective grid). The Verbal Reasoning items ask participants to answer questions related to general reasoning and problem-solving (e.g., “If the day after tomorrow is two days before Thursday, then what day is it today?”). Finally, the 3D Rotation items presented participants with images of three-dimensional cubes, with each face of each cube displaying a different image. Participants were asked to identify which of the 8 response options represents a possible rotation of each cube. Condon and Revelle conducted exploratory factor analyses to assess the underlying factor structure for both the 60-item and 16-item versions of the ICAR. Although the correlations between factors were quite high in some cases ( $r_s = 0.41$  to  $0.70$ ), the fit statistics and factor loadings supported a four-factor solution, suggesting that the ICAR subscales measure distinct cognitive abilities.

The ICAR was developed to be used in un-proctored, online settings, and without time limits. Condon and Revelle (2014) note that the ICAR's constituent items were intended to be difficult to reference (e.g., by looking up answers online). In their initial validation and assessment of the ICAR, Condon and Revelle reported acceptable variance, with more than half of the questions on the 60-item ICAR answered incorrectly more often than correctly, and analyses indicating a wide range of item difficulties. Accordingly, participants completed the ICAR as part of an un-proctored, online survey, and without time limits. However, we note that the instructions for the 16-item ICAR state that a maximum of 16 min is “recommended” for participants 18–25 years of age. The questionnaire administered for the current study was hosted on Qualtrics. Although Qualtrics provides overall survey completion time for each participant by default, we did not include any embedded metrics to determine the time participants took to complete the ICAR, specifically. Thus, there is a risk that, on average, participants took more than the recommended time to complete the ICAR, which may have influenced overall scores.

ICAR scores were calculated by summing the total number of correct responses out of 16. The sample for the present study had a mean ICAR score of 8.5 ( $Median = 8.0$ ;  $SD = 3.04$ ), which is similar to other studies using the 16-item ICAR (e.g., Bainbridge et al., 2019; Blacksmith et al., 2019; Jach & Smillie, 2019). Alpha and omega reliability estimates were acceptable ( $\alpha = 0.71$ ;  $\omega = 0.69$ ) and align with reliability estimates reported in previous uses of the 16-item ICAR (e.g., Condon & Revelle, 2014; Dunlop et al., 2017).

#### 1.2.2. Jealousy

The Multidimensional Jealousy Scale (MJS; Pfeiffer & Wong, 1989; Rydell & Bringle, 2007) was used to assess male self-reported *suspicious jealousy* (16 items; e.g., “I suspect that [my partner] may be attracted to someone else” [ $\alpha = 0.91$ ]) and *reactive jealousy* (8 items; e.g., “Someone of the opposite sex is dating [my partner]” [ $\alpha = 0.84$ ]). Participants were asked to respond to each item using a 7-point scale with specific anchors that differed across the items (e.g., 1 [*never*] to 7 [*always*]). In their initial validation of the MJS, Rydell and Bringle (2007) observed that reactive jealousy was correlated with self-reported dependency ( $r = 0.40$ ), and that suspicious jealousy was correlated with insecurity ( $r = 0.60$ ), anxious attachment ( $r = 0.47$ ), and avoidant attachment ( $r = 0.14$ ; all  $p_s < .05$ ).

#### 1.2.3. Partner-directed violence

The Violence Assessment Index (Dobash et al., 1995, 1996) was used to assess how frequently participants reported using violence against

their romantic partner (24 items; e.g. “Kicked partner in the body, arms, or legs” [ $\alpha = 0.90$ ]). Participants were asked to report how frequently they had engaged in each behavior using a scale ranging from 1 (*Act NEVER occurred in this relationship*) to 6 (*Act occurred 11 OR MORE times in this relationship*).

#### 1.2.4. Partner-inflicted injury

The Injury Assessment Index (Dobash et al., 1998) was used to assess how frequently participants had injured their romantic partner as a consequence of using violence against them (20 items; e.g. “Black eye” [ $\alpha = 0.92$ ]). Participants were asked to report how frequently their partner had sustained various injuries using a scale ranging from 1 (*Partner NEVER sustained this injury as a result of my physical aggression*) to 6 (*Partner sustained this injury 11 OR MORE times as a result of my physical aggression*).

#### 1.2.5. Partner-directed insults

The Partner-Directed Insult Scale (PDIS; Goetz et al., 2006) was used to assess self-reported insults directed at a romantic partner (47 items; e.g. “I told my partner that she is fat” [ $\alpha = 0.96$ ]). Participants were asked to report how frequently they had employed each insult using a scale ranging from 1 (*never*) to 6 (*25 or more times*). In the initial development and validation of the PDIS, Goetz et al. (2006) presented evidence for convergent validity, observing a significant correlation between scores on the PDIS and scores on the Controlling Behavior Index (Dobash et al., 1996;  $r = 0.63$ ). However, Goetz and colleagues also highlight the discriminant validity of the PDIS, noting that it shared <40 % of the variance with scores on the Controlling Behavior Index.

#### 1.2.6. Partner-directed sexual coercion

The Sexual Coercion in Intimate Relationships Scale (SCIRS; Goetz & Shackelford, 2010) was used to assess men's sexual coercion in their intimate relationships during the past month (34 items; e.g. “I pressured my partner to have sex with me against her will” [ $\alpha = 0.99$ ]). Participants were asked to respond to each item using a scale that ranged from 0 (*Act did NOT occur in the past month*) to 5 (*Act occurred 11 OR MORE times in the past month*). Although the alpha reliability for the SCIRS was very high in the present study, previous investigations have observed similarly high values (e.g., Goetz & Shackelford, 2006 [ $\alpha = 0.95$ ]; Goetz & Shackelford, 2009 [ $\alpha = 0.95$ ]; Shackelford & Goetz, 2004 [ $\alpha = 0.96$ ]). Previous research has supported the convergent and discriminative validity of the SCIRS, with men's sexual coercion in their intimate relationships correlated negatively with their partner's relationship satisfaction (Shackelford & Goetz, 2004) and with men's self-reported conscientiousness (Goetz & Shackelford, 2009), and correlated positively with men's scores on the Controlling Behavior Index (Dobash et al., 1996), Violence Assessment Index (Dobash et al., 1995, 1996), Injury Assessment Index (Dobash et al., 1998), and PDIS (Goetz et al., 2006), but also that scores on the SCIRS share <20 % of response variance with these measures (Goetz & Shackelford, 2006; Shackelford & Goetz, 2004; Starratt et al., 2008).

#### 1.2.7. Mate retention behaviors

The self-reported mate retention behaviors of participants were measured with the Mate Retention Inventory-Short Form (MRI-SF; Buss et al., 2008). The MRI-SF assesses two types of mate retention: *cost-inflicting behaviors* (22 items; “Called to make sure my partner was where they said they would be” [ $\alpha = 0.89$ ]) and *benefit-provisioning behaviors* (16 items; e.g. “Bought my partner an expensive gift” [ $\alpha = 0.81$ ]). Participants were asked to report how frequently they had engaged in each behavior in the past year using a scale ranging from 1 (*never performed this act*) to 4 (*often performed this act*). Buss et al. (2008) observed positive correlations between scores on the MRI-SF and the Controlling Behavior Index ( $r = 0.39$ ) and Violence Assessment Index ( $r = 0.14$ ), indicating convergent validity.

#### 1.2.8. Desire for power

We employed a modified version of the Desire for Power Scale (Williams et al., 2017) previously used by Traeder and Zeigler-Hill (2020) to assess whether participants want more power in their relationships (4 items; e.g., “I don't have as much power in my romantic relationship as I deserve” [ $\alpha = 0.80$ ]). Participants responded to each item using a 7-point scale that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Traeder and Zeigler-Hill observed negative correlations between men's self-reported desire for power in their relationship, and their self-reported perceptions of holding power in the relationship ( $r = -0.26$ ) and relationship satisfaction ( $r = -0.41$ ), providing evidence for the Desire for Power Scale's discriminative validity.

#### 1.2.9. Relationship investment

The Investment Model Scale (IMS; Rusbult et al., 1998) was used to measure men's overall investment in their current relationship (22 items; e.g., “I am committed to maintaining my relationship with my partner” [ $\alpha = 0.89$ ]), as well as *availability of attractive alternatives* ( $\alpha = 0.82$ ), *relationship satisfaction* ( $\alpha = 0.91$ ), *relationship commitment* ( $\alpha = 0.90$ ), and *investment size* ( $\alpha = 0.68$ ). Participants responded to each item using a 9-point scale that ranged from 1 (*Do not agree at all*) to 9 (*Agree completely*). In the initial construction and validation of the Investment Model Scale, Rusbult et al. (1998) reported that the facet measure for each subscale was more strongly correlated to its corresponding global measure than to other constructs (e.g., the facet measure for the relationship satisfaction subscale was more strongly correlated to its corresponding global measure than to the global measure of the Liking and Loving Scale). However, Rusbult and colleagues also noted that IMS subscales were associated with conceptually similar constructs (e.g., the relationship commitment subscale of the IMS had a positive correlation with the dyadic satisfaction subscale of the Dyadic Adjustment Scale [ $r = 0.63$ ]). Rusbult and colleagues included 12 measures beyond the IMS (with 6 of these measures focused on long-term relationships), and presented evidence for the convergent and discriminative validity of the IMS.

#### 1.2.10. Erectile dysfunction

The International Index of Erectile Function (IIEF-5; Rosen et al., 1999) was used to assess self-reported erectile functioning (5 items; e.g. “How often were you able to get an erection during sexual activity?” [ $\alpha = 0.72$ ]). Participants responded to each question using anchors that differed across the items (e.g., 1 [*Almost never/never*] to 5 [*Almost always/always*]). These items were reverse-scored such that higher scores indicated more frequent experience with erectile dysfunction. In the initial construction of the 5-item IIEF, Rosen and colleagues sampled men with and without a clinical diagnosis of ED. The ROC curve (0.97) indicated that the IIEF-5 had a 97 % chance of correctly identifying a man as either having, or not having ED.

#### 1.2.11. Psychopathy

The Self-Report Psychopathy Scale: Short Form 4 (SRP:SF; Paulhus et al., 2016) was used to measure men's psychopathic traits (29 items; e.g., “You should take advantage of other people before they do it to you” [ $\alpha = 0.91$ ]). Participants rated items on a scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Williams et al. (2003) reported convergent validity for the long form version of the Self Report Psychopathy scale, showing that SRP scores correlated with preferences for antisocial entertainment ( $r = 0.36$ ), and discriminative validity showing that SRP scores correlated negatively with agreeableness ( $r = -0.46$ ) and conscientiousness ( $r = -0.23$ ).

## 2. Results

For all variables other than the ICAR, average scores for each participant were calculated and used in subsequent analyses. Descriptive statistics and reliability estimates for all variables are presented in

**Table 1**  
Descriptive statistics and alpha reliability estimates.

	<i>M</i>	<i>SD</i>	$\alpha$
ICAR total	8.50	3.04	0.71
VR	3.18	0.90	0.38
LN	2.49	1.45	0.74
MX	2.11	1.11	0.26
R3D	0.71	1.10	0.69
Suspicious jealousy	1.99	0.88	0.91
Reactive jealousy	5.01	0.79	0.84
Partner-directed violence	1.17	0.35	0.90
Partner-directed injury	1.03	0.16	0.92
Partner-directed insults	1.21	0.39	0.96
Partner-directed sexual coercion	1.21	0.60	0.99
Benefit-provisioning mate retention	2.42	0.47	0.81
Cost-inflicting mate retention	1.51	0.44	0.89
Desire for power	2.74	1.17	0.80
Relationship investment	6.89	1.12	0.89
Quality of alternatives	5.70	1.87	0.82
Satisfaction	7.37	1.52	0.91
Commitment	7.76	1.37	0.90
Investment size	6.40	1.42	0.68
Erectile dysfunction	1.61	0.60	0.72
Psychopathy	2.01	0.60	0.91

**Table 1.** Zero-order correlations for all variables are presented in **Table 2**. Men's general intelligence (i.e., ICAR summary score) had small negative associations with partner-directed insults, partner-directed sexual coercion, cost-inflicting mate retention, desire for power in romantic relationships, erectile dysfunction, and psychopathy, and small positive associations with overall relationship investment, perceived quality of alternatives, and commitment. The same pattern of associations emerged for men's scores on the Letter Number Series subscale of the ICAR sample test. That is, men's subscale scores for the Letter Number Series items had the same pattern and direction of significant associations, and the strengths of these associations were similar; however, men's scores on the Letter Number Series subscale also had a small positive association with the Satisfaction subscale of the Investment Model Scale, whereas overall ICAR score did not. Men's scores on the Verbal Reasoning subscale had a small negative association with cost-inflicting mate retention, and their scores on the Matrix Reasoning subscale had a small negative association with psychopathy. Men's general intelligence and ICAR subscales were not associated with suspicious jealousy, reactive jealousy, partner-directed violence, partner-inflicted injury, or benefit-provisioning mate retention.

We conducted several multiple regression analyses to determine whether specific components of the ICAR were associated with aspects of men's romantic relationships. Standardized regression coefficients and adjusted  $R^2$  values are presented in **Table 3**. Results revealed that men's scores on the Letter and Number Series subscale had unique, small negative associations with their use of partner-directed insults ( $\beta = -0.23$ ,  $t = -2.98$ ,  $p = .003$ ,  $CI_{95\%} [-0.10, -0.02]$ ), partner-directed sexual coercion ( $\beta = -0.16$ ,  $t = -2.03$ ,  $p = .044$ ,  $CI_{95\%} [-0.13, -0.002]$ ), cost-inflicting mate retention ( $\beta = -0.22$ ,  $t = -2.89$ ,  $p = .004$ ,  $CI_{95\%} [-0.11, -0.02]$ ), and self-reported psychopathy ( $\beta = -0.16$ ,  $t = -2.06$ ,  $p = .040$ ,  $CI_{95\%} [-0.13, -0.003]$ ), as well as unique, small positive associations with overall relationship investment ( $\beta = 0.24$ ,  $t = 3.15$ ,  $p = .002$ ,  $CI_{95\%} [0.07, 0.30]$ ), relationship satisfaction ( $\beta = 0.18$ ,  $t = 2.28$ ,  $p = .023$ ,  $CI_{95\%} [0.03, 0.34]$ ), and commitment ( $\beta = 0.26$ ,  $t = 3.51$ ,  $p < .001$ ,  $CI_{95\%} [0.11, 0.39]$ ). No other associations emerged as significant.

### 3. Discussion

The results of the present research suggest that performance on specific types of cognitive assessment items uniquely predict several variables related to men's romantic relationships and individual differences. Little research has investigated the extent to which specific

**Table 2**  
Zero-order and Spearman correlation coefficients between ICAR measures and men's relationship variables.

	ICAR Total	VR	LN	MX	R3D
ICAR total	–				
VR	0.61*** (0.61***)	–			
LN	0.73*** (0.73***)	0.26*** (0.25***)	–		
MX	0.72*** (0.72***)	0.28*** (0.30***)	0.36*** (0.38***)	–	
R3D	0.59*** (0.52***)	0.23*** (0.21**)	0.11 (0.09)	0.29*** (0.27***)	–
Suspicious jealousy	–0.13 (–0.04)	–0.09 (–0.05)	–0.12 (–0.07)	–0.07 (0.02)	–0.04 (0.01)
Reactive jealousy	0.05 (0.04)	0.09 (0.09)	0.03 (0.01)	0.00 (–0.01)	0.03 (0.05)
Partner-directed violence	–0.01 (0.07)	–0.07 (0.05)	–0.02 (0.06)	–0.04 (0.03)	0.09 (0.03)
Partner-directed injury	–0.02 (–0.05)	0.02 (–0.01)	–0.06 (–0.07)	0.03 (–0.08)	0.00 (0.07)
Partner-directed insults	–0.16* (–0.06)	–0.12 (–0.02)	–0.23*** (–0.14)	–0.07 (0.01)	0.02 (0.06)
Partner-directed sexual coercion	–0.17* (–0.05)	–0.13 (–0.10)	–0.18* (–0.07)	–0.07 (0.07)	–0.06 (–0.04)
Benefit- provisioning mate retention	0.08 (0.07)	–0.07 (–0.06)	0.09 (0.07)	0.10 (0.09)	0.06 (0.04)
Cost-inflicting mate retention	–0.19** (–0.09)	–0.14* (–0.09)	–0.23** (–0.15*)	–0.06 (0.02)	–0.05 (0.00)
Desire for power	–0.16* (–0.14*)	–0.02 (–0.03)	–0.17* (–0.12)	–0.08 (–0.09)	–0.11 (–0.12)
Relationship investment	0.21** (0.21**)	0.10 (0.10)	0.24*** (0.22**)	0.09 (0.11)	0.10 (0.01)
Quality of alternatives	0.17* (0.17*)	0.04 (0.03)	0.15* (0.12)	0.13 (0.13)	0.12 (0.06)
Satisfaction	0.11 (0.07)	0.05 (0.00)	0.17* (0.14)	0.05 (0.03)	–0.01 (–0.06)
Commitment	0.21** (0.20**)	0.08 (0.05)	0.26*** (0.22**)	0.08 (0.14*)	0.10 (0.01)
Investment size	0.12 (0.11)	0.14 (0.16*)	0.12 (0.11)	–0.01 (0.00)	0.07 (0.02)
Erectile dysfunction	–0.17* (–0.18**)	–0.11 (–0.11)	–0.15* (–0.17*)	–0.07 (–0.06)	–0.10 (–0.10)
Psychopathy	–0.18* (–0.17*)	–0.05 (–0.09)	–0.19** (–0.16*)	–0.15* (–0.13)	–0.06 (–0.02)

*Note:* Spearman correlation coefficients appear in parentheses.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

subscales of the ICAR are associated with other, non-g variables. However, following the Cattell-Horn-Carroll (CHC) model of intelligence (McGrew, 2009), the Letter Number series items from the ICAR seem intended to measure the Stratum II ability of fluid reasoning or fluid intelligence (Gf). Indeed, one study observed that fluid intelligence (measured using 9 Letter Number series items from the ICAR) was positively associated with emotion perception, emotion understanding, and emotion management (Evans et al., 2020). Thus, the available literature suggests that fluid intelligence is related to the suppression of impulsive behaviors and mitigating undesirable life outcomes.

The results of the current research contribute to literature investigating the role of general intelligence in facilitating favorable outcomes for romantic relationships. Although we did not investigate the role of either general intelligence or specific Stratum II abilities in successful navigation of relationship problems, we did observe associations between men's performance on Letter Number series items and variables that may be related to relationship quality, satisfaction, and commitment. For example, men's use of cost-inflicting mate retention tactics is negatively associated with relationship satisfaction (e.g., Babaeizad et al., 2022); psychopathic traits are positively associated with abusive behaviors in intimate relationships (Humeny et al., 2021); and greater



**Table 3**  
Standardized regression coefficients for ICAR subscales and men's relationship variables.

	VR	LN	MX	R3D	R <sup>2</sup>
Suspicious jealousy	-0.06	-0.09	-0.02	-0.01	0.00
Reactive jealousy	0.10	0.02	-0.04	0.02	-0.01
Partner-directed violence	-0.08	0.01	-0.06	0.13	0.00
Partner-directed injury	0.03	-0.09	0.06	-0.01	-0.01
Partner-directed insults	-0.07	-0.23**	0.01	0.06	0.04
Partner-directed sexual coercion	-0.09	-0.16*	0.02	-0.02	0.02
Benefit-provisioning mate retention	-0.13	0.08	0.09	0.06	0.01
Cost-inflicting mate retention	-0.09	-0.22**	0.05	-0.02	0.04
Desire for power	0.05	-0.16*	-0.01	-0.11	0.02
Relationship investment	0.02	0.24**	-0.02	0.08	0.05
Quality of alternatives	-0.04	0.13	0.06	0.10	0.02
Satisfaction	0.01	0.18*	-0.01	-0.03	0.01
Commitment	0.00	0.26***	-0.04	0.08	0.05
Investment size	0.12	0.12	-0.10	0.06	0.02
Erectile dysfunction	-0.07	-0.14	0.02	-0.08	0.01
Psychopathy	0.02	-0.16*	-0.09	-0.03	0.02

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

desire for power is associated with lower satisfaction, investment, and commitment in romantic relationships (Traeder & Zeigler-Hill, 2020). Conversely, relationship investment has been associated with greater relationship satisfaction (e.g., Rusbult et al., 1998). Thus, the results of the present study suggest that lower general intelligence, and possibly lower fluid intelligence, is associated with undesirable outcomes for romantic relationships.

Conversely, the results of the present study partially contrast those of Kanazawa (2014), who reported that women with higher general intelligence were more likely to remain childless later in life. One possibility, consistent with Kanazawa's (2004) perspective, is that individuals with higher general intelligence have no advantage in solving the evolutionarily recurrent problem of attracting partners and forming relationships, but that for individuals who are able to overcome this initial obstacle, higher intelligence does confer an advantage in navigating certain relationship problems.

The results of recent work investigating the role of specific cognitive abilities in navigating relationship problems (e.g., Baker et al., 2020) and the associations observed in the present study suggest that specific Stratum II cognitive abilities may be important predictors for various aspects of romantic relationships. However, it is important to highlight the exploratory nature of the present study, and these results should be interpreted with caution.

The present research contained several limitations. First, although the ICAR was designed for use in un-proctored, online surveys, the ICAR sample test instructions suggest a time limit of 16 min, and we were unable to determine the time participants took to complete the ICAR portion of the questionnaire. Additionally, the ICAR items appeared at the end of a somewhat lengthy survey (average completion time for participants in the current study was 69.13 min;  $SD = 30.01$ ). Second, the exploratory nature of the present research means that we are unable to determine whether higher intelligence is the mechanism by which men better navigate relationship problems and achieve more desirable relationship outcomes. Additionally, the correlational nature of the present research means that we are unable to infer causal relationships between intelligence and relationship outcomes. Third, the present study included only men, so we are unable to generalize the results of the present study to women.

#### 4. Conclusion

Individuals with higher general intelligence can expect to enjoy more

favorable life outcomes, including greater academic and workplace achievement, higher socioeconomic status, and increased life expectancy. However, little research has investigated the associations between general intelligence and outcomes for romantic relationships. The present study intended to address these issues. Given the potential importance of general intelligence and specific cognitive abilities in navigating relationship problems, future investigations should continue this line of research.

#### CRedit authorship contribution statement

**Gavin S. Vance:** Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Tara DeLecce:** Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Todd K. Shackelford:** Writing – original draft, Data curation, Conceptualization.

#### Declaration of competing interest

None.

#### Data availability

Data will be made available on request.

#### References

- Babaeizad, A., Fallahchai, R., & Abbasnejad, T. (2022). Mate-value and relationship satisfaction: The moderating roles of mate retention behaviors. *PLoS One*, 17(1), Article e0262154. <https://doi.org/10.1371/journal.pone.0262154>
- Bainbridge, T. F., Quinlan, J. A., Mar, R. A., & Smillie, L. D. (2019). Openness/intellect and susceptibility to pseudo-profound bullshit: A replication and extension. *European Journal of Personality*, 33(1), 72–88. <https://doi.org/10.1002/per.2176>
- Baker, L. R., Kane, M. J., & Russell, V. M. (2020). Romantic partners' working memory capacity facilitates relationship problem resolution through recollection of problem-relevant information. *Journal of Experimental Psychology: General*, 149(3), 580–584. <https://doi.org/10.1037/xge0000659>
- Baker, L. R., & McNulty, J. K. (2020). The relationship problem solving (RePS) model: How partners influence one another to resolve relationship problems. *Personality and Social Psychology Review*, 24(1), 53–77. <https://doi.org/10.1177/1088868319881243>
- Beaver, K. M., Schwartz, J. A., Nedelec, J. L., Connolly, E. J., Boutwell, B. B., & Barnes, J. C. (2013). Intelligence is associated with criminal justice processing: Arrest through incarceration. *Intelligence*, 41(5), 277–288. <https://doi.org/10.1016/j.intell.2013.05.001>
- Blacksmith, N., Yang, Y., Behrend, T. S., & Ruark, G. A. (2019). Assessing the validity of inferences from scores on the cognitive reflection test. *Journal of Behavioral Decision Making*, 32(5), 599–612. <https://doi.org/10.1002/bdm.2133>
- Buss, D. M., Shackelford, T. K., & McKibbin, W. F. (2008). The mate retention inventory-short form (MRI-SF). *Personality and Individual Differences*, 44(1), 322–334. <https://doi.org/10.1016/j.paid.2007.08.013>
- Condon, D. M., & Revelle, W. (2014). The international cognitive ability resource: Development and initial validation of a public-domain measure. *Intelligence*, 43, 52–64. <https://doi.org/10.1016/j.intell.2014.01.004>
- Deary, I. J., Whiteman, M. C., Starr, J. M., Whalley, L. J., & Fox, H. C. (2004). The impact of childhood intelligence on later life: Following up the Scottish mental surveys of 1932 and 1947. *Journal of Personality and Social Psychology*, 86(1), 130–147. <https://doi.org/10.1037/0022-3514.86.1.130>
- Dobash, R. E., Dobash, R. P., Cavanagh, K., & Lewis, R. (1995). Evaluating criminal justice programmes for violent men. In R. E. Dobash, R. P. Dobash, & L. Noaks (Eds.), *Gender and crime* (pp. 358–389). University of Wales Press.
- Dobash, R. E., Dobash, R. P., Cavanagh, K., & Lewis, R. (1996). *Research evaluation of programmes for violent men*. Scottish Office Central Research Unit. <https://www.ojp.gov/ncjrs/virtual-library/abstracts/research-evaluation-programmes-violent-men>.
- Dobash, R. E., Dobash, R. P., Cavanagh, K., & Lewis, R. (1998). Separate and intersecting realities: A comparison of men's and women's accounts of violence against women. *Violence Against Women*, 4(4), 382–414. <https://doi.org/10.1177/1077801298004004002>
- Dunlop, P. D., Bourdage, J. S., de Vries, R. E., Hilbig, B. E., Zettler, I., & Ludeke, S. G. (2017). Openness to (reporting) experiences that one never had: Overclaiming as an outcome of the knowledge accumulated through a proclivity for cognitive and aesthetic exploration. *Journal of Personality and Social Psychology*, 113(5), 810–834. <https://doi.org/10.1037/pspp0000110>
- Evans, T. R., Hughes, D. J., & Steptoe-Warren, G. (2020). A conceptual replication of emotional intelligence as a second-stratum factor of intelligence. *Emotion*, 20(3), 507. <https://doi.org/10.1037/emo0000569>

- Goetz, A. T., & Shackelford, T. K. (2006). Sexual coercion and forced in-pair copulation as sperm competition tactics in humans. *Human Nature, 17*, 265–282. <https://doi.org/10.1007/s12110-006-1009-8>
- Goetz, A. T., & Shackelford, T. K. (2009). Sexual coercion in intimate relationships: A comparative analysis of the effects of women's infidelity and men's dominance and control. *Archives of Sexual Behavior, 38*, 226–234.
- Goetz, A. T., & Shackelford, T. K. (2010). Sexual coercion in intimate relationships scale. In T. D. Fisher, C. Davis, W. Yarber, & S. Davis (Eds.), *Handbook of sexuality-related measures* (3rd ed., pp. 125–127). London: Taylor & Francis.
- Goetz, A. T., Shackelford, T. K., Schipper, L. D., & Stewart-Williams, S. (2006). Adding insult to injury: Development and initial validation of the Partner-Directed Insults Scale. *Violence and Victims, 21*(6), 691–706. <https://doi.org/10.1891/0886-6708.21.6.691>
- Gottfredson, L. S. (1997). Why g matters: The complexity of everyday life. *Intelligence, 24* (1), 79–132. [https://doi.org/10.1016/S0160-2896\(97\)90014-3](https://doi.org/10.1016/S0160-2896(97)90014-3)
- Gottfredson, L. S. (2004). Intelligence: Is it the epidemiologists' elusive "fundamental cause" of social class inequalities in health? *Journal of Personality and Social Psychology, 86*(1), 174–199. <https://doi.org/10.1037/0022-3514.86.1.174>
- Hopcroft, R. L. (2006). Sex, status, and reproductive success in the contemporary United States. *Evolution and Human Behavior, 27*(2), 104–120. <https://doi.org/10.1016/j.evolhumbehav.2005.07.004>
- Humeny, C., Forth, A., & Logan, J. (2021). Psychopathic traits predict survivors' experiences of domestic abuse. *Personality and Individual Differences, 171*, Article 110497. <https://doi.org/10.1016/j.paid.2020.110497>
- Jach, H. K., & Smillie, L. D. (2019). To fear or fly to the unknown: Tolerance for ambiguity and Big Five personality traits. *Journal of Research in Personality, 79*, 67–78. <https://doi.org/10.1016/j.jrp.2019.02.003>
- Kanazawa, S. (2004). General intelligence as a domain-specific adaptation. *Psychological Review, 111*(2), 512–523. <https://doi.org/10.1037/0033-295X.111.2.512>
- Kanazawa, S. (2014). Intelligence and childlessness. *Social Science Research, 48*, 157–170. <https://doi.org/10.1016/j.ssresearch.2014.06.003>
- Kuncel, N. R., Hezlett, S. A., & Ones, D. S. (2004). Academic performance, career potential, creativity, and job performance: Can one construct predict them all? *Journal of Personality and Social Psychology, 86*(1), 148–161. <https://doi.org/10.1037/0022-3514.86.1.148> [10.1207/s15327965pli1503\\_02](https://doi.org/10.1207/s15327965pli1503_02)
- McGrew, K. S. (2009). CHC theory and the human cognitive abilities project: Standing on the shoulders of the giants of psychometric intelligence research. *Intelligence, 37*(1), 1–10. <https://doi.org/10.1016/j.intell.2008.08.004>
- Paulhus, D. L., Neumann, C. S., Hare, R. D., Williams, K. M., & Hemphill, J. F. (2016). *The self-report psychopathy scale manual* (4th ed.). Multi-Health Systems.
- Pfeiffer, S. M., & Wong, P. T. (1989). Multidimensional jealousy. *Journal of Social and Personal Relationships, 6*(2), 181–196. <https://doi.org/10.1177/026540758900600203>
- Rosen, R. C., Cappelleri, J. C., Smith, M. D., Lipsky, J., & Pena, B. M. (1999). Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. *International Journal of Impotence Research, 11*(6), 319–326. <https://doi.org/10.1038/sj.ijir.3900472>
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*(4), 357–387. <https://doi.org/10.1111/j.1475-6811.1998.tb00177.x>
- Rydell, R. J., & Bringle, R. G. (2007). Differentiating reactive and suspicious jealousy. *Social Behavior and Personality, 35*(8), 1099–1114. <https://doi.org/10.2224/sbp.2007.35.8.1099>
- Shackelford, T. K., & Goetz, A. T. (2004). Men's sexual coercion in intimate relationships: Development and initial validation of the Sexual Coercion in Intimate Relationships Scale. *Violence and Victims, 19*(5), 541–556. <https://doi.org/10.1891/vivi.19.5.541.63681>
- Starr, J. M., Taylor, M. D., Hart, C. L., Smith, G. D., Whalley, L. J., Hole, D. J., ... Deary, I. J. (2004). Childhood mental ability and blood pressure at midlife: Linking the Scottish Mental Survey 1932 and the Midspan studies. *Journal of Hypertension, 22* (5), 893–897.
- Starratt, V. G., Goetz, A. T., Shackelford, T. K., McKibbin, W. F., & Stewart-Williams, S. (2008). Men's partner-directed insults and sexual coercion in intimate relationships. *Journal of Family Violence, 23*, 315–323. <https://doi.org/10.1007/s10896-008-9153-z>
- Terman, L. M., & Oden, M. H. (1959). Genetic studies of genius. In , Vol. V. *The gifted group at mid-life: Thirty-five years' follow-up of the superior child*. Stanford University Press.
- Traeder, C. K., & Zeigler-Hill, V. (2020). The desire for power and perceptions of heterosexual romantic relationships: The moderating roles of perceived power and gender. *Sex Roles, 82*(1), 66–80. <https://doi.org/10.1007/s11199-019-01037-9>
- Vance, G., Zeigler-Hill, V., Meehan, M. M., Young, G., & Shackelford, T. K. (2023). Erectile dysfunction, suspicious jealousy, and partner-directed behaviors in heterosexual romantic couples. *Archives of Sexual Behavior, 52*(7), 3139–3153. <https://doi.org/10.1007/s10508-023-02672-w>
- Williams, K. M., Nathanson, C., & Paulhus, D. L. (2003). Structure and validity of the self-report psychopathy scale-III in normal populations. In *111th annual convention of the American Psychological Association* (pp. 1–12).
- Williams, M. J., Gruenfeld, D. H., & Guillory, L. E. (2017). Sexual aggression when power is new: Effects of acute high power on chronically low-power individuals. *Journal of Personality and Social Psychology, 112*(2), 201–223. <https://doi.org/10.1037/pspi0000068>