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Perceptions of love across the lifespan: Differences in passion, intimacy, and commitment

Sindy R. Sumter,¹ Patti M. Valkenburg,¹ and Jochen Peter¹

Abstract

This study investigated perceptions of love across the lifespan using Sternberg's triangular theory of love, which distinguishes between passion, intimacy, and commitment. The study aimed to (a) investigate the psychometric properties of the short Triangular Love Scale (TLS-short) in adolescents and adults (see Appendix), and (b) track age and gender differences in the three love components of the TLS-short in a sample of 12- to 88-year-olds ($N = 2791$). The three-factor structure of the TLS-short was confirmed in both the adolescent and adult sample. Adolescents (12–17 years) reported lower levels of all love components compared to young adults (18–30 years). Late adults (50+) reported lower levels of passion and intimacy, but similar levels of commitment compared to young (18–30 years) and middle adults (30–50 years). Gender differences in the perceptions of all three love components were present but less sizeable than suggested in popular accounts and earlier academic research.

Keywords

age differences, gender differences, lifespan, love, romantic relationships

Love is an integral part of the human experience. The trials and tribulations associated with love have been documented widely in popular culture, self-help books, and academic research (e.g. Schoenfeld, Bredow, & Huston, 2012). The presence or absence of love can have strong effects on people's relationship satisfaction (e.g. Fehr, 2001; Meeks, Hendrick, & Hendrick, 1998) and their overall mental well-being (Sprecher & Fehr, 2006). Although adolescence is the time that romantic love first develops (Collins, 2003), little is known about individual perceptions of love among boys and girls during and after adolescence. To better understand the development of romantic relationships, it is crucial to investigate how boys and girls perceive love in those first romantic relationships, and how these perceptions compare to the love perceptions of men and women in the later stages of the lifespan. To investigate age and gender differences in love perceptions from a lifespan perspective is the main aim of the current study.

Research on individual perceptions of love has mainly focused on adults (e.g. Berscheid, 2010; Hazan & Shaver, 1987; Hendrick & Hendrick, 1986; Langeslag, Muris, & Franken, 2012; Neto, 2012; Rubin, 1970; Sternberg, 1986). Perceptions of love during adolescence have only been a topic of interest for about a decade (for a review see: Collins, Welsh, & Furman, 2009). However, in the earliest studies on love, researchers already documented that love does not only change as a relationship progresses, but that it is also experienced and expressed differently by different age groups (e.g. Montgomery & Sorell, 1997; Beigel, 1951; Knox, 1970; Winch, 1952). To our knowledge, a study on lifespan developmental differences in these perceptions is still lacking. In the current study we investigated age differences in perceptions of love among 12- to 88-year-olds. More specifically, we compared perceptions of love among males and females in six developmental periods: early (12–13 years), middle (14–15 years), and late adolescence (16–17 years), and young (18–29 years), middle (30–49 years), and late adulthood

(50+). These age groups have been used in previous studies on adolescence (e.g. Steinberg, Cauffman, Woolard, Graham, & Banich, 2009) and adulthood (e.g. McCrae et al., 1999; Tanner, Amett, & Leis, 2009).

Triangular theory of love: Passion, intimacy, and commitment

Several models and instruments are available to assess individual perceptions of love (e.g. Hatfield & Rapson, 1994; Hendrick & Hendrick, 1986; Hendrick & Hendrick, 2002; Rubin, 1970; Sternberg, 1986). In the current study, we adopted Sternberg's (1986, 1997) Triangular Theory of Love. The Triangular Theory of Love proposes that the three components of love – passion, intimacy and commitment – are motivational needs that are present in a relationship to different degrees (Sternberg, 1986, 1997). The components capture the way people interact with and feel towards their current, past, or future romantic partner. Passion reflects the physical attraction and arousal between romantic partners, and a need for physical proximity. Intimacy encompasses feelings of mutual trust and connectedness within a romantic relationship. These feelings allow partners to engage in mutual self-disclosure, and to share their secrets and most intimate feelings with each other. Finally, commitment refers to the conception or decision that the current relationship will last.

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Different combinations of the three love components are possible and result in several so-called love styles (Sternberg, 1997). Successful and satisfying romantic relationships are characterized by balanced levels of passion, intimacy, and commitment (Sternberg, 1997). In addition, the three love components are dependent on relationship status, that is, being in or out of a relationship, and they follow a certain sequence within a relationship. For example, according to Sternberg (1997), the early stages of a relationship are characterized primarily by passion. After this stage, intimacy and commitment are expected to increase. Recently, some have argued that although intimacy and commitment become more important during the advanced stages of a relationship, this does not necessarily occur at the expense of passion (Acevedo & Aron, 2009). Rather, when relationships mature all love components may increase and, as a result, strengthen the relationship.

All three components of love can be assessed with the Triangular Love Scale (TLS; e.g. Lemieux & Hale, 1999; Sternberg, 1997). Construct validity of the TLS is acceptable. The TLS is related to other measures of love and predictive of relationship satisfaction (e.g. Lemieux & Hale, 1999; Sternberg, 1997). The most recent version of the TLS is available for adults and adolescents, which allows us to use the same measure for both our adolescent and adult samples (Lemieux & Hale, 1999; Overbeek et al., 2007).

Age and perception of love: A lifespan perspective

We adopted a lifespan approach to formulate our expectations regarding age differences in love. Our lifespan approach to love perceptions follows the tradition of lifespan approaches to social relationships in general (e.g. Fingerman & Lang, 2004; Luong, Charles, & Fingerman, 2011). Lifespan psychologists argue that age differences in behavior and perceptions are due to various variables, including development, motivational changes, life experiences, and changes in social context (e.g. Fingerman & Lang, 2004). Lifespan studies have shown, for example, that, in comparison to younger adults, older adults are more satisfied with their social relationships. Using the Socioemotional Selectivity Theory (Carstensen, Isaacowitz, & Charles, 1999), lifespan psychologists argue that this increase in relationship satisfaction is due to changes in people's temporal horizon (Luong, Charles, & Fingerman, 2011). When adults grow older, they are less concerned with the future and more focused on the present. Consequently, they spend more time and effort in fewer relationships, which may enhance perceptions of intimacy and commitment in this stage of life.

In the tradition of the lifespan approach, authors who study love among adults have also stressed that during different developmental stages new values, responsibilities and experiences emerge, and these affect how individuals experience love during the early and later stages of adulthood (Neto, 2012). The lifespan approach seems to focus on changes in adulthood, but it can also be used to better understand changes during adolescence.

Empirical evidence for age differences in love perceptions

Passion

Adolescence is characterized by biological and psychosocial changes that may be of importance to adolescents' experience of

passion. As puberty brings about strong motivational changes, adolescents become strongly driven by their passions and act more impulsively in social situations (Dahl, 2004). Based on this research, we expect that during adolescence passion will increase significantly, and will be more salient than intimacy and commitment. Furthermore, passion may function as a developmental precursor of intimacy and commitment during adolescence, in the same way as passion is a temporal precursor of intimacy and commitment in romantic relationships (Connolly & Goldberg, 1999).

Empirical studies of age differences in passion during adolescence show mixed results. Some studies reported no age differences (e.g. Shulman & Scharf, 2000), others studies reported a decrease with age (e.g. Connolly, Craig, Goldberg, & Pepler, 1999; Galotti, Kozberg, & Appleman, 1990), and again others an increase with age (e.g. Ha, Overbeek, de Greef, Scholte, & Engels, 2010).

Whereas adolescence is considered to be a time when passions are ignited (Dahl, 2004), adulthood is related to a reduction of physiological arousal and consequently a time when passions are trimmed down (Carstensen & Charles, 1999). These physiological changes that occur throughout adulthood suggest that older adults report lower levels of passion than younger adults. In line with this expectation, most studies show that passion becomes less prominent during adulthood. However, this decrease in passion is small (e.g. Ahmetoglu et al., 2010). For instance, older women and men still reported moderate to high levels of passionate (Hatfield et al., 1984) and erotic love (Grote & Frieze, 1998), even though these levels were slightly lower than during earlier stages of development.

Intimacy

Intimacy is a primary developmental milestone during adolescence and advances in intimacy during this period are observed in many studies (Buhrmester & Furman, 1987). In line with these findings, the majority of studies on love seem to support increases in self-reported intimacy in romantic relationships during adolescence (e.g. Connolly et al., 1999; Ha et al., 2010).

Following Socioemotional Selectivity Theory (SST), changes in individuals' temporal horizon predict that, in later stages of adulthood, romantic relationships grow more intimate (Luong, Charles, & Fingerman, 2011). However, studies among adults reported no changes or very little change in self-reported intimacy (e.g. Ahmetoglu et al., 2010; Falconi & Mullet, 2003). Thus, we expect that during adolescence age differences will be most pronounced, with early adolescents reporting lower levels of intimacy than late adolescents. Furthermore, age differences in intimacy from emerging adulthood onwards are expected to be limited.

Commitment

The majority of studies provide evidence for an increase in commitment during adolescence that continues into adulthood (e.g. Ahmetoglu et al., 2010; Falconi & Mullet, 2003; Ha et al., 2010; but for exceptions, see Connolly et al., 1999; Shulman & Scharf, 2000). The increase in commitment during adolescence follows several developmental transitions. Adolescents spend less time with their parents, while relationships with peers and romantic partners become more central. Transient non-kin relationships are replaced with more stable non-kin relationships, and adolescents slowly adopt more adult-like roles (Collins, 1997). These developments are expected to result in higher levels of commitment. At the same time, in today's society

adoption of adult roles and responsibilities is postponed (Arnett, 2000), so that we expect young adults to still report lower levels of commitment than middle and late adults. An explanation for an increase in commitment during adulthood is that older adults experience their romantic relationships as more intimate (see SST; Luong, Charles, & Fingerman, 2011),

Conclusion

Up to now, studies that investigated love and romantic relationships focused on one specific age group or did not report age differences in their sample (e.g. Feiring, 1996; Gao, 2001; Levesque, 1993; Overbeek, Ha, Scholte, de Kemp, & Engels, 2007). Furthermore, those studies that did report age differences in passion, intimacy, and/or commitment showed mixed results. Thus, based on these studies no definite conclusions can be drawn about age differences in the components of love. However, based on well-documented developmental changes, motivational changes and changes in social context, we can come up with some preliminary hypotheses. We expect age differences in all love components during adolescence, with older adolescents reporting higher levels of passion, intimacy, and commitment than younger adolescents. In addition, we expect modest age differences during adulthood, with adults in later stages of their lives reporting less passion, but more intimacy, and commitment than younger adults.

Gender and perceptions of love: A social cultural perspective

Perceptions of love are not only expected to differ across the lifespan, but also between males and females. Popular media often emphasize or sometimes even exaggerate the differences between males and females in how they act in love relationships and how they value love (Signorella & Cooper, 2011). For instance, the website of *Psychology Today* (Formica, 2009) reports: ‘Men and women ... tend to approach relationships from vastly different points of reference. It is no secret that men and women operate differently, especially in terms of emotionality.’

Several social-cultural theories explain why males and females may differ in reported perceptions of love (e.g. Hendrick & Hendrick, 2002). These accounts are in line with theories that predict gender differences in behavior in general (Deaux & Major, 1987). For example, the socio-cultural perspective of Schoenfeld, Bredow, and Huston (2012) argues that traditional gender roles determine how men and women should behave, and how they experience romantic relationships. Women are stereotypically expected to be more emotionally expressive, whereas men are expected to value sexual intimacy over emotional intimacy (Schoenfeld et al., 2012). Similarly, the two-cultures perspective (Maccoby, 1998), a theory of gender differences in adolescent peer relations, assumes that boys and girls experience their romantic relationships differently because they are socialized in gender-segregated peer groups. Before adolescents engage in romantic relationships, they spend most of their childhood interacting with same-sex rather than cross-sex peers (e.g. Rose & Rudolph, 2006). These gender-segregated experiences reinforce gender differences and result in different expectations about romantic relationships between the genders (Maccoby, 1998). As a result, girls are more focused on self-disclosure and intimacy, whereas boys are focused less on self-disclosure and more on sexuality and nonverbal and indirect

expressions of intimacy (Underwood & Rosen, 2009; Connolly et al., 1999).

Empirical evidence for gender differences in love perceptions

Passion

The majority of studies report no gender difference in passion among adolescents (e.g. Connolly et al., 1999; Ha et al., 2010; Levesque, 1993; Shulman & Scharf, 2000) and adults (e.g. Falconi & Mullet, 2003; Gao, 2001; Hatfield & Sprecher, 1986). In the few studies that did report a gender difference in passion, men reported more passion than women (e.g. Ahmetoglu et al., 2010; Feiring, 1996).

Intimacy

In line with gender stereotypical conceptions, women generally report higher levels of intimacy than men, but according to a meta-analysis of Dindia and Allen (1992) this gender difference is small. Some recent studies show that girls and women report slightly higher levels of intimacy than men during adolescence (e.g. Shulman, Walsh, Weisman, & Schelyer, 2009) and adulthood (e.g. Ahmetoglu et al., 2010), whereas other studies report no such gender differences (e.g. Connolly et al., 1999; Gao, 2001; Ha et al., 2010).

Commitment

With reference to commitment, the findings have been most inconsistent. Some studies reported no gender differences in commitment (e.g. Duffy & Rusbult, 1986; Gao, 2001). When gender differences were observed, some studies found men to report more commitment (e.g. Ahmetoglu et al., 2010; Reedy, Birren, & Schaie, 1981), whereas others showed that women reported more commitment (e.g. Lemieux & Hale, 1999; Duffy & Rusbult, 1986).

Conclusion

Surprisingly, the evidence for gender differences in the three love components are mixed both during adolescence and adulthood. Most studies provide little evidence for gender differences (e.g. Connolly et al., 1999; Ha et al., 2010; Levesque, 1993; Seiffge-Krenke, 2003). When gender differences are observed, studies seem to support the idea that men report higher levels of passion, lower levels of intimacy and similar levels of commitment compared to women. However, in more recent studies gender differences are even less robust than in earlier ones (e.g. Gao, 2001; Ha et al., 2010).

This small and inconsistent evidence may be due to a gradual decrease of gender differences in today's society (Oliver & Hyde, 1993). However, this assumption has not been verified. Moreover, although gender differences may be small on the aggregate, they may vary across different lifespan stages. Hardly any of the previous studies have investigated how gender interacts with age. This is an important omission, because gender differences in interpersonal behaviors are often more obvious during mid- to late adolescence (Cyranowski & Frank, 2000). Thus, it is likely that gender differences in love's components will be more consistent when we take into account different developmental stages. To investigate these interactions between gender and age is an important aim of the present study.

Current study

The current study investigated the three components of love distinguished by Sternberg (i.e. passion, intimacy, and commitment) among a sample of early, middle, and late adolescents, and among young, middle, and late adults. The three components of love were assessed with a short version of the recently developed Triangular Love Scale for Adolescents, which has been validated for youth aged 10 to 18 (Overbeek et al., 2007). First, we assessed the factor structure and psychometric properties of the shortened Triangular Love Scale in an adolescent and adult sample. Second, we investigated age and gender differences in self-reported passion, intimacy, and commitment with reference to a romantic relationship (Overbeek et al., 2007). We paid special attention to the moderating role of relationship status – overall and in the different age gender groups. After all, perceptions of love may change as a romantic relationship progresses (Rusbult, Olsen, Davis, & Hannon, 2001). In addition, adolescents may score lower on all three components of love merely because they are not romantically involved. To assess the role of relationship status, we investigated whether and to what extent the age and gender effects are moderated by relationship status.

Method

Participants and procedure

The current data were collected through an online survey among a representative sample of 1765 Dutch adolescents (12- to 17-year-olds) and 1026 Dutch adults (18- to 88-year-olds) in May and June 2008. Sampling and fieldwork were conducted by Veldkamp, the largest Dutch survey research institute. Respondents were randomly selected from an existing nationally representative online panel administered by Veldkamp, which consists of more than 110,000 participants. In contrast to online convenience samples with their danger of self-selection biases, the pool of potential respondents was originally sampled randomly from the Dutch population and is continuously updated. Out of this pool, 2092 adolescents and 1267 adults were randomly contacted. A response rate of 84% for the adolescent and of 81% for the adult sample was yielded. Forty-nine percent of the adolescents and 51% of the adults were female. Most of the adolescents (81%) lived with two parents (in line with official Dutch statistics: CBS, 2009). Participants came from urban as well as rural regions all over the Netherlands. Educational levels were equally distributed across the age groups.

Parental consent for participation of respondents younger than 18 years was obtained from the parents before the survey was fielded. At the beginning of the online survey, both adolescent and adult participants were asked for informed consent. We asked participants to fill in the questionnaire in privacy and emphasized that their answers would be analyzed only by the principal investigators. Participants were also informed that they could stop at any time if they wished. Completing the questionnaire took about 20 minutes. Participants received a 5€ coupon (approx. 7 USD) for their participation. Before the beginning of the study, institutional approval was received.

Measures

Age. Adolescents were divided into three age groups to reflect the developmental stages of early (12–13 years; $N = 568$), middle (14–15 years; $N = 606$), and late adolescence (16–17 years; $N = 591$). Adults were also separated into three age groups. The first

Table 1. Percentage of participants with different relationship statuses by age group.

Age groups	Relationship Status		
	Currently involved	Has been involved	Never involved
Early adolescence	8.47%	42.15%	49.38%
Middle adolescence	14.36%	48.68%	36.96%
Late adolescence	26.69%	42.74%	30.57%
Young adulthood	60.82%	9.36%	29.82%
Middle adulthood	82.21%	8.41%	9.38%
Late adulthood	73.74%	21.69%	4.57%

group included all adults between 18 and 29 years, and reflected young adulthood ($N = 171$). The second and third adult group reflected middle (30–49 years; $N = 416$) and late adulthood (50+; $N = 439$).

Relationship status. All participants were assigned to one of three groups that reflected their romantic history and current relationship status. A distinction was made between participants who (1) were currently romantically involved, (2) were not romantically involved but had been before, or (3) had never been romantically involved. The age by relationship status distribution can be found in Table 1.

Triangular love scale. We used a short version of the Dutch Triangular Love Scale for Adolescents to measure self-reported passion, intimacy, and commitment in a relationship (Overbeek et al., 2007). This adolescent version was adapted from Lemieux and Hale's Triangular Love Scale (1999). The items are adapted for adolescents, while at the same time keeping the content identical. Thus, all items are expected to be relevant to both adolescents and adults. Negatively phrased items were rewritten and some words were simplified.

Overbeek et al. (2007) validated the scale for an adolescent sample. A Confirmatory Factor Analysis conducted by Overbeek et al. provided support for a three-factor solution and all scales showed good reliability (Cronbach's $\alpha \geq .80$). Furthermore, all components were positively related to adolescents' satisfaction with their romantic relationships and length of their relationship. However, Overbeek et al. reported that some items had lower factor loadings than expected. These items might have been more relevant for romantic relationships during adulthood than adolescence. As a result, we used the four items with highest factor loadings in Overbeek et al.'s study for each subscale (see Table 2 for the exact items). The wording of the items was dependent on the relationship status of the participant (i.e. never been in a romantic relationship, one or more past romantic relationships, or currently in a romantic relationship). All three versions of the scale can be found at www.ccam-ascor.nl. Responses to the 12 items ranged from 1 (= very untrue) to 5 (= very true).

Results

Psychometric properties of the triangular love scale – short

To investigate the dimensional structure of the short Triangular Love Scale (TLS-short), exploratory factor analyses with Varimax rotation were performed for the two age groups (adolescents versus

Table 2. Varimax-rotated factor loadings of the triangular love scale items for adolescents and adults.

Items	Adolescents			Adults		
	Passion	Intimacy	Commitment	Passion	Intimacy	Commitment
1 I feel a strong attraction to my partner (passion-1)	.70			.73		
2 I feel aroused by my partner (passion-2)	.89			.86		
3 I find my partner sexually attractive (passion-4)	.88			.88		
4 My partner and I clearly show each other our love (passion-5)	.71			.70		.41
5 My partner and I always tell each other personal things (intimacy-1)		.79			.78	
6 I tell my partner everything (intimacy-2)		.83			.84	
7 My partner and I tell each other all our secrets (intimacy-3)		.83			.85	
8 My partner understands how I feel (intimacy-5)		.76			.70	
9 I want my relationship to be never-ending (commitment-2)			.88			.86
10 I never want to have another partner (commitment-4)			.88			.84
11 I want my relationship with my partner to last forever (commitment-5)			.90			.86
12 I am rather with partner than with anyone else (commitment-6)			.65			.74
Cronbach's Alpha	.89	.88	.92	.92	.91	.93

Note. The three versions of the triangular love scale can be requested from the first author or found at www.ccam-ascor.nl. References to original items used by Overbeek et al. (2007) are presented in parentheses.

adults) separately. The scree plot indicated a three-factor solution explaining 77.7% of the variance in total among the adolescent sample and 81.2% among the adult sample. The factor loadings for each subscale are presented in Table 1. Only substantial loadings (above .40) are presented in Table 2. None of the subscales had substantial secondary loadings. Finally, all subscales showed good reliability with Cronbach's alphas above .88 for all subscales in both the adolescent and adult sample (see Table 2). The interscale correlations ranged between .58 and .64.

To test whether love's components differed from each other, paired sample t-tests were performed. These tests showed that among adults all love components were significantly different from each other, p 's < .001. Mean levels of commitment ($M = 4.26$, $SD = 0.81$) were highest followed by passion ($M = 4.06$, $SD = 0.79$) and intimacy ($M = 3.84$, $SD = 0.86$). Adolescents reported similar levels of passion ($M = 3.58$, $SD = 0.91$) and intimacy ($M = 3.57$, $SD = 0.79$), which were both higher than commitment ($M = 3.42$, $SD = 0.97$, p 's < .001).

Age and gender differences in love styles

We conducted a Repeated Measures MANOVA with love included as a within-subject variable (i.e. passion, intimacy, and commitment). Age (1 = early adolescence, 2 = middle adolescence, 3 = late adolescence, 4 = young adulthood, 5 = middle adulthood, 6 = late adulthood), gender (0 = men, 1 = women), and relationship status (1 = currently involved, 2 = currently not involved, 3 = never involved) were included as between-subjects variables. Multivariate statistics were significant for Love, Wilks' $\Lambda = .97$, $F(2, 2753) = 37.33$, $p < .001$, partial eta squared (η_p^2) = .026, Love \times Age, Wilks' $\Lambda = .94$, $F(10, 5506) = 18.19$, $p < .001$, $\eta_p^2 = .032$, Love \times Gender, Wilks' $\Lambda = .99$, $F(2, 2753) = 11.84$, $p < .001$, $\eta_p^2 = .009$, and Love \times Relationship Status, Wilks' $\Lambda = .99$, $F(4, 5506) = 5.36$, $p < .001$, $\eta_p^2 = .004$. In addition, two three-way interactions were significant, Love \times Age \times Gender, Wilks' $\Lambda = .99$, $F(10, 5506) = 3.07$, $p < .01$, $\eta_p^2 = .006$, and Love \times Age \times Relationship Status, Wilks' $\Lambda = .98$, $F(20, 5506) = 3.34$, $p < .001$, $\eta_p^2 = .010$. The interaction Love \times Gender \times Relationship Status and the four-way interaction Love \times Age \times Gender \times Relationship Status were not significant.

Table 3. Mean levels of love styles by age by gender (standard deviations in parentheses).

		Men	Women	All
Whole sample	Passion	3.82 (0.86)	3.69 (0.92)	3.76 (0.90)
	Intimacy	3.64 (0.82)	3.70 (0.83)	3.67 (0.82)
	Commitment	3.69 (0.99)	3.77 (1.01)	3.73 (1.00)
Early adolescents	Passion	3.16 (0.90)	3.07 (0.94)	3.12 (0.92)
	Intimacy	3.29 (0.81)	3.44 (0.84)	3.37 (0.83)
	Commitment	3.13 (1.00)	3.22 (1.00)	3.18 (1.00)
Middle adolescents	Passion	3.71 (0.76)	3.48 (0.92)	3.59 (0.85)
	Intimacy	3.49 (0.76)	3.68 (0.79)	3.58 (0.78)
	Commitment	3.39 (0.93)	3.43 (1.01)	3.41 (0.97)
Late adolescents	Passion	4.06 (0.71)	3.97 (0.71)	4.02 (0.71)
	Intimacy	3.71 (0.70)	3.76 (0.72)	3.74 (0.71)
	Commitment	3.60 (0.86)	3.74 (0.90)	3.67 (0.88)
Young adults	Passion	4.26 (0.71)	4.36 (0.70)	4.33 (0.70)
	Intimacy	3.87 (0.80)	4.12 (0.75)	4.03 (0.77)
	Commitment	4.23 (0.77)	4.37 (0.81)	4.32 (0.79)
Middle adults	Passion	4.21 (0.70)	4.06 (0.79)	4.14 (0.74)
	Intimacy	3.91 (0.83)	3.87 (0.80)	3.89 (0.82)
	Commitment	4.29 (0.77)	4.29 (0.83)	4.29 (0.79)
Late adults	Passion	4.00 (0.79)	3.74 (0.83)	3.87 (0.82)
	Intimacy	3.87 (0.86)	3.61 (0.93)	3.74 (0.91)
	Commitment	4.20 (0.85)	4.21 (0.81)	4.21 (0.83)

The interaction between love and age indicates that age differences were different for the three love components. Because the main aim of the current paper was to study the lifespan pattern of love's components, we conducted follow-up analyses for the three love components separately. Follow-up univariate analyses included age, gender, and relationship status as independent variables. Table 3 presents the means and standard deviations of all love components by age, gender and relationship status.

Passion

We found significant effects for age, gender and relationship status, and the interaction age by relationship status. A main effect was observed for age, $F(5, 2754) = 54.96$, $p < .001$, $\eta_p^2 = .091$. Post

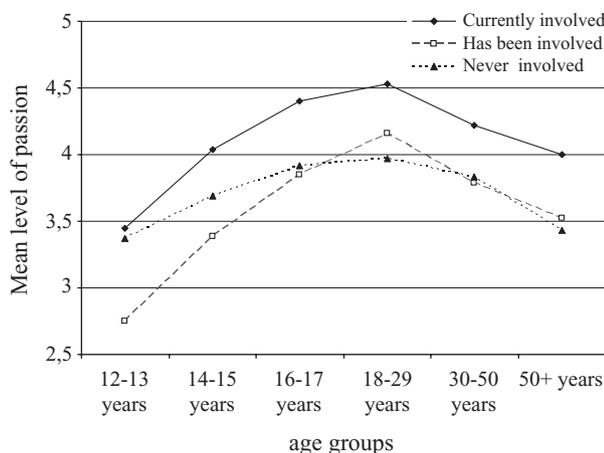


Figure 1. Age and relationship status differences in mean levels of passion (value range 1 = not true at all to 5 = very true).

hoc tests (Bonferroni corrected) revealed that in the adolescent sample all age groups differed significantly from each other ($ps < .05$), with the older adolescents reporting more passion. Hence, middle adolescents reported higher levels of passion than early adolescents, and late adolescents reported higher levels of passion than middle adolescents. Young adults reported more passion than all other age groups. Middle and late adults reported lower levels of passion compared to young adults, similar levels compared to late adolescents, and higher levels compared to early and middle adolescents (see Table 3). A main effect was also observed for gender, which indicated that men reported higher levels of passion than women did, $F(1, 2754) = 18.44, p < .001, \eta_p^2 = .007$. The age by gender interaction was not significant, $F(5, 2754) = 0.86, ns$. This means that in all age groups, men reported more passion than women.

A main effect was also observed for relationship status, $F(2, 2754) = 59.85, p < .001, \eta_p^2 = .042$; all three groups differed significantly from each other ($ps < .001$). Participants who were currently involved reported the most passion and those who had been involved earlier reported the least passion. Finally, the Age \times Relationship Status was significant, $F(10, 2754) = 4.86, p < .001, \eta_p^2 = .017$ (see Figure 1). Among participants who had never been romantically involved, age differences were limited; early adolescents reported less passion than all other age groups. Among participants who had been involved or were currently involved in a relationship, the overall pattern as discussed above was observed with young adults reporting the highest level of passion.

Intimacy

We found significant effects for age and relationship status, and for the interactions age by gender and age by relationship status. A main effect was observed for age, $F(5, 2754) = 11.22, p < .001, \eta_p^2 = .020$. Post hoc tests revealed that early and middle adolescents reported lower levels of intimacy than all other age groups ($ps < .05$). Late adolescents reported lower levels of intimacy compared to young and middle adults. Furthermore, young and middle adults reported similar levels of intimacy, but both reported more intimacy than late adults (respectively, $p < .05$, and $p < .10$). Thus, intimacy was highest among young adults and lower among middle and late adults (see Table 3).

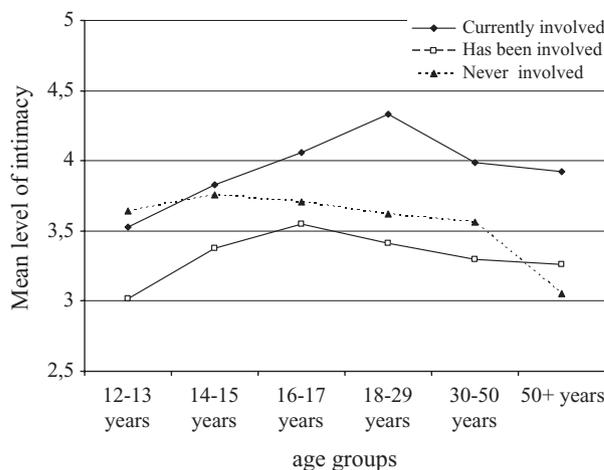


Figure 2. Age and relationship status differences in mean levels of intimacy (value range 1 = not true at all to 5 = very true).

We found no gender main effect, $F(1, 2754) = 0.00$, but a significant Age \times Gender interaction, $F(5, 2754) = 3.34, p < .01, \eta_p^2 = .006$. Follow-up planned contrasts showed that in comparison to men, women reported more intimacy in age group 1 (early adolescence), 2 (middle adolescence), and 4 (young adulthood), and less intimacy in age group 6 (late adulthood). In age groups 3 (late adolescence) and 5 (middle adulthood) no significant differences between men and women were found (see Table 3).

A main effect was also observed for relationship status, $F(2, 2754) = 71.34, p < .001, \eta_p^2 = .049$; all three groups differed significantly from each other ($ps < .001$). Participants who were currently involved reported the most intimacy and those who had been involved in the past reported the least intimacy. Finally, the Age \times Relationship Status was significant, $F(10, 2754) = 5.02, p < .001, \eta_p^2 = .018$. Among the participants who had never been romantically involved age differences were limited; the older adults reported less intimacy than the adolescents and young adults (see Figure 2). Among participants who had been romantically involved or were currently involved the overall pattern as discussed above was observed, with young adults reporting more intimacy than both the early adolescents and the late adults.

Commitment

We found significant effects for age, relationship status, and the interactions age by relationship status and age by gender by relationship status. The main effect of age was significant for commitment, $F(5, 2754) = 26.59, p < .001, \eta_p^2 = .046$. Post hoc tests (Bonferroni corrected) revealed that in the adolescent sample all age groups differed significantly from each other ($ps < .05$), with older adolescents reporting higher levels of commitment. In the adult sample, 18- to 88-year-olds, all age groups reported similar levels of commitment ($ps > .05$). Thus, age differences in commitment are present throughout adolescence up to young adulthood. We found no gender main effect, $F(1, 2754) = 0.31, ns$, and no significant age by gender interaction, $F(5, 2754) = 0.54, ns$.

A main effect was also observed for relationship status, $F(2, 2754) = 87.79, p < .001, \eta_p^2 = .060$; all groups differed significantly from each other ($ps < .001$). Participants who were currently involved in a relationship reported the most commitment and those

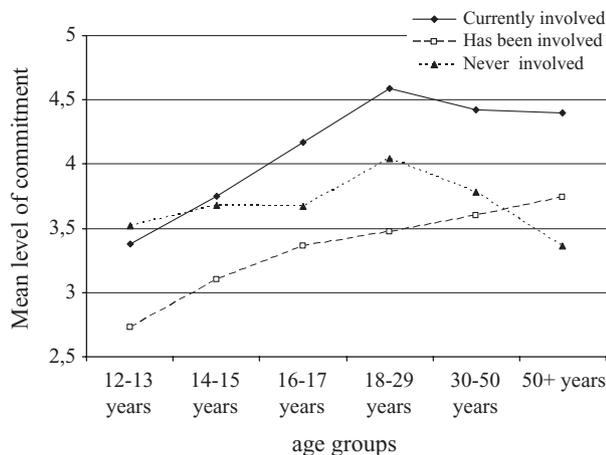


Figure 3. Age and relationship status differences in mean levels of commitment (value range 1 = not true at all to 5 = very true).

who had been romantically involved reported the least commitment. Finally, the Age \times Relationship Status was significant, $F(10, 2754) = 4.92, p < .001, \eta_p^2 = .018$, and the Age \times Gender \times Relationship status was significant, $F(10, 2754) = 1.96, p < .05, \eta_p^2 = .007$. Post hoc tests of the two-way interaction effect between Age \times Relationship Status showed a linear increase (polynomial contrast) in commitment across the lifespan among participants who were currently involved or who had been involved (see Figure 3). Commitment showed a linear decrease from young adulthood for participants who had never been romantically involved. We also investigated the three-way interaction in more detail by investigating the age pattern for each gender by relationship status combination. The overall Age \times Relationship Status pattern was replicated for men and women with one exception. Whereas women in late adulthood who had never been involved reported lower levels of commitment than women in young adulthood, no age differences were observed for men who had never dated.

Discussion

The current study investigated the dimensional structure and psychometric properties of the short version of the Triangular Love Scale (Overbeek et al., 2007). In addition, we investigated age and gender differences in love during adolescence and adulthood. Exploratory factor analyses confirmed the expected three-factor structure in both samples, and all subscales showed high internal consistency. The subscales showed moderate inter-correlations, which were less strong compared to studies with earlier versions of the scale (e.g. Hendrick & Hendrick, 1989). This suggests that the Triangular Love Scale, in its current form, more accurately represents the independent components of love.

Our results show that participants who were currently romantically involved reported the highest levels of passion, intimacy and commitment, and those who had been romantically involved in the past reported the lowest levels. We also find that adults reported higher levels of passion, intimacy, and commitment than adolescents. Age differences during adulthood were limited. Respondents in later adulthood reported slightly lower levels of passion and intimacy when compared to young adults. This age difference pattern, however, did not apply to participants who had never been romantically involved. It is not entirely clear why individuals who

have never been in a romantic relationship do not exhibit these age differences. It may be that this group represents a distinct set of individuals whose behaviors and beliefs do not generalize to individuals with romantic experience. Adults without romantic experience, for example, may have specific personality characteristics which inhibit them from forming romantic relationships (e.g. social anxiety). However, given that there were few adults without romantic experience in the sample, future research which includes a greater number of individuals without romantic experience could better elucidate these findings. It is also important to recognize that the age differences observed in the current study reflect cohort differences. Longitudinal research which includes a nuanced distinction between age groups in adulthood would provide an important validation and extension of these findings.

Passion

From a biological perspective, we expected that late adolescents would report higher levels of passion than early adolescents, while respondents in late adulthood would report lower levels of passion than younger adults (see respectively Dahl, 2004; Carstensen & Charles, 1999). In line with our expectations, levels of passion differed among all age groups from 12 to 29 years old. Young adults reported the highest levels of passion and early adolescents reported the lowest level of passion. Our study contradicts the qualitative results by Connolly et al. (1999), which revealed a decrease in passion between the ages of 9 and 14. This discrepancy may be due to methodological differences. Connolly et al. asked specifically how cross-sex friendships differed from romantic relationships. This might have primed the participants towards passion-related descriptions, because passion is more uniquely related to romantic relationships than intimacy and commitment.

Young adults also reported higher levels of passion than the older adult age groups. These results are in line with the idea that passion declines during adulthood (e.g. Falconi & Mullet, 2003). Although late adults reported lower levels of passion than young adults, all participants over 30 years of age reported relatively high levels of passion. These effects provide additional evidence that although passionate and erotic love diminish during the later stages of the lifespan (e.g. Grote & Frieze, 1998; Hatfield et al., 1984; Montgomery & Sorell, 1997), passion is still present at moderate to high levels in middle and late adults' romantic relationships.

Intimacy

With increasing age, participants reported more intimacy. In line with previous studies on intimacy-related constructs in the context of romantic relationships, age differences in intimacy were particularly strong during adolescence (e.g. Seiffge-Krenke, 2003). These findings can be understood in the light of psychosocial development. During this developmental stage adolescents develop their social skills and the instrumental view of relationships is replaced by an appreciation of the intimacy that relationships offer (Westenberg & Gjerde, 1999). Early adolescents' instrumental view of relationships reflects the idea that relationships can be practical – the people you have a relationship with can help you out, you can spend time together and do things together. In this stage they focus on what the other can do for them, whereas from late adolescence, a relationship is valuable because it allows you to share personal thoughts and feelings with another – you can connect with another

and a relationship provides emotional support. From this point on the focus shifts to what partners in a relationship can mean to each other. These changes are likely to foster intimacy in romantic relationships. Finally, although middle and late adults reported slightly lower levels of intimacy than young adults, age differences in intimacy among participants aged 30 years and older were limited (cf. Reedy et al., 1981; Falconi & Mullet, 2003).

Commitment

We theorized that commitment would become more important during adolescence as romantic relationships develop from casual to committed relationships (e.g. Gordon & Miller, 1984). In line with our expectation, late adolescents reported higher levels of commitment than early adolescents, and young adults reported even higher levels of commitment than late adolescents. However, in all adolescent age groups mean levels of commitment were high. Our results support the argument expressed by Diamond, Savin-Williams, and Dubé (1999) that 'adolescent romantic relationships involve a degree of mutual commitment frequently unappreciated by adults' (p. 200).

Although we expected that late adults would report the most commitment, in the current sample all adult age groups reported similar levels of commitment. This finding might be due to a ceiling effect as all adults reported very high levels of commitment (i.e. average scores around 4.25 on a scale ranging from 1 to 5).

Gender

Previous studies on gender differences in love perceptions among both adolescents and adults showed mixed results (e.g. Ahmetoglu et al., 2010; Connolly et al., 1999; Gao, 2001; Ha et al., 2010). Notably, all gender differences in the reported levels of passion, intimacy and commitment in our study were modest in size. Men reported higher levels of passion than women in all age groups, and lower levels of intimacy in some age groups. There were no gender differences in reported levels of commitment. When interpreting our gender differences it is important not to reify our findings, especially because the differences we observed were modest (e.g. Hyde, 2005; Wright, 1988). Following Wright (1988), it is important to stress that the gender differences reported in the manuscript should not be exaggerated. Overall, men and women seemed more similar than different in reported levels of passion, intimacy, and commitment. These limited gender differences are consistent with more recent views of gender differences in relationships that argue that similarities between men and women outnumber the differences (Marshall, 2010; Montgomery & Sorell, 1997). Thus, differences within sexes are bigger than differences between sexes.

Furthermore, gender is one between-person variable that is strongly related to other variables that might affect perceptions of love. For this reason, it is important that future research include possible confounding variables that may shed light on within-group differences.

Contextualizing love across the lifespan

Our findings need to be seen in the context of several limitations. Although age and gender are important predictors of love, several other variables might moderate the main effects of age and gender. For instance, religiosity is negatively related to love styles where passion dominates (Montgomery & Sorell, 1997). Thus, age differences

might be more pronounced in secular than in religious countries. Although age differences might be less pronounced when controlling for different variables, studies have also shown that age differences in love are robust. For example, Ahmetoglu, Swami, and Chamorro-Premuzic (2010) showed that the effect of age on reported passion, intimacy, and commitment remained significant even after controlling for Big 5 personality traits.

In addition, not only should future studies include multiple explanatory variables, but we also need to investigate love in a broader social context. Romantic relationships are one type of many relationships that people develop. Future research should pay more attention to how love relates to other important relationships during the lifespan, such as family relationships and friendships. These kin and non-kin relationships can predict the quality of one's romantic relationships (e.g. Seiffge-Krenke, 2003). It is also interesting to investigate whether during adolescence those who report high levels of intimacy in romantic relationships also show more intimacy in their peer or parent relationships. Looking at the interplay between different relationships will broaden our understanding of love.

Finally, a thorough lifespan approach will help us better understand the observed age differences. Thus, future studies should use proximal measures of maturation, motivations, life experiences and social context that can be seen as the underlying mechanisms of age-related changes in perceptions of love (e.g. Fingerma & Lang, 2004). These measures allow us to better understand whether the observed age differences in three components of love reflect developmental changes. Furthermore, within age group differences might be related to life events, like getting married, children, sickness and stress.

In conclusion, the current results have shown that the short version of the Triangular Love Scale is a valid instrument to study love throughout the lifespan. Our study provided several important insights in age differences in love. All components of love became more prominent from adolescence to young adulthood, and commitment became the primary component within adult's conceptions of love. More specifically, having romantic experiences seems to be an important learning experience. Overall, gender differences with regard to intimacy, passion and commitment were modest. Finally, it is apparent that research should reflect the multidimensionality of love. Therefore, future studies should test the differential effect of passion, intimacy and commitment on outcome variables of interest, e.g. relational satisfaction and well-being.

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Note

1. Adolescent: 12–17 years of age; Adult: 18 years of age or older.

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Appendix

Short triangular love scale for adolescents and adults

Description. 12-item scale that measures three elements of love: passion, intimacy and commitment. The scale is adapted from the triangular love scale for adolescents (Overbeek et al., 2007). The current scale can be used among adolescents and adults. Three versions are available depending on the respondent's relationship status. Cronbach's alphas for the three subscales are high.

Reference. Overbeek, G., Ha, T., Scholte, R., de Kemp, R., & Engels, R. (2007). Brief report: Intimacy, passion, and commitment in romantic relationships – Validation of a 'triangular love scale' for adolescents. *Journal of Adolescence*, 30, 523–528.

Filter question. We recommend to include the following filter question. Please describe your current relationship status?

- a. I am currently dating, married or in a stable relationship Go to Version 1
- b. I currently don't have a partner, but I have dated, been married or have had a stable relationship Go to Version 2
- c. I have never dated nor been in a stable relationship Go to Version 3

Instructions. We want to know what you think about love and relationships. Please indicate how much the statements below apply to you.

(Response options: very true, true, partly true/partly untrue, untrue, very untrue)

Version 1 - in romantic relationship. Adolescents are asked to think about the person they are currently dating or are in a relationship with. Adults are asked to think about their (marital) partner.

Passion.

- I feel a strong attraction to my partner.
- I feel sexually aroused by my partner.
- I find my partner sexually attractive.
- My partner and I clearly show each other our love.

Intimacy.

- My partner and I always tell each other personal things.
- I tell my partner everything.
- My partner and I tell each other all our secrets.
- My partner understands how I feel.

Commitment.

- I want my relationship to be never-ending.
- I never want to have another partner.
- I want the relationship with my partner to last forever.
- I would rather be with my partner than with anyone else.

Version 2 - with romantic relationship experience, but currently not involved. Adolescents are asked to think about their former girlfriend or boyfriend.

Adults are asked to think about their former (marriage) partner.

Passion.

- I felt strongly attracted to my partner.
- I felt sexually aroused by my partner.
- I found my partner sexually attractive.
- My partner and I clearly showed each other our love.

Intimacy.

- My partner and I always told each other personal things.
- I told my partner everything.
- My partner and I told each other all our secrets.
- My partner understood how I felt.

Commitment.

- I wanted my relationship to be never-ending.
- I never wanted to have another partner.
- I wanted the relationship with my partner to last forever.
- I was rather with my partner than with anyone else.

Version 3 - with no romantic relationship experience. Adolescents are asked to think about a future girlfriend/boyfriend. Adults are asked to think about a future (marriage) partner.

Passion.

- I want to feel strongly attracted to my partner.
- I want to feel sexually aroused by my partner.
- I want to find my partner sexually attractive.
- My partner and I will clearly show each other our love.

Intimacy.

- My partner and I always will tell each other personal things.
- I will tell my partner everything.
- My partner and I will tell each other all our secrets.
- My partner will understand how I feel.

Commitment.

- I would want my relationship to be never-ending.
- I would never want to have another partner.
- I would want the relationship with my partner to last forever.
- I would rather be with my partner than with anyone else.