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ABSTRACT

Humans are highly social beings who need intimate relationships to thrive and survive. Integral to human physical and emotional wellness is the need for affection. A substantial body of evidence has found that expressing and receiving affection with significant others is associated with a multitude of positive health outcomes. The primary goal of the current study was to create a generalizable typology of affectionate behaviors embedded within close relationships and experienced within the daily lives of U.S. American adults from across the country. The study identified 13 discrete forms of daily affectionate communication. Implications for such a typology of daily affection within the United States are discussed.

Humans are an intensely social species characterized by a need for high quality relationships and intimate interaction with valued others. Strong interpersonal relationships support a host of physical and mental benefits and have long been regarded as vital to human survival and well-being. Long-standing theorizing about the role of primary interpersonal needs (Schutz, 1958), behavior and motivation (Maslow, 1943), the need to belong (Baumeister & Leary, 1995), and the evolutionary drive for survival and fitness (Floyd, 2006a) illuminates why such relationships are so important to wellness and how relational communication behaviors work to produce and sustain these health outcomes. Among the most consequential forms of relational communication for health and wellness is the tendency to express and receive affection. Research over the last two decades overwhelmingly supports the argument that the communication of affection within interpersonal relationships is associated with multiple physical and mental health outcomes (for a meta-analysis, see Hesse et al., 2020).

Affectionate communication is defined as an "individual's intentional and overt enactment or expression of feelings of closeness, care, and fondness for another" (Floyd & Morman, 1998, p. 145); additionally, it is conceptualized as the "symbolic behaviors through which people convey messages of love, fondness, and positive regard to each other" (Floyd, 2015, p. 24). Whereas the provision of affection is reliably associated with physical and mental

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benefits, deprivation of affection covaries with a litany of negative health outcomes, including loneliness, chronic pain, and thoughts of self-harm (Floyd & Morman, 2020). With social isolation at epidemic levels in the United States (Demarinis, 2020), a deeper understanding of the role and importance of human affection exchange in our daily lives is needed, perhaps now more than ever. Therefore, the goal for the current project is to investigate the daily expressions of affection within the lives of the American population. On a granular level, we sought to discover the specific ways Americans communicated affection to friends, family, and romantic partners, and in what contexts. Our goal was to create a generalizable typology of affectionate behaviors embedded within close relationships and experienced within the daily lives of Americans from across the country.

We begin this review by using Floyd's (2006a) affection exchange theory to frame the importance of affectionate communication to the human social agenda, underscoring the value of generalizable conceptual and operational definitions. We then describe existing conceptual definitions, focusing specifically on Floyd and Morman's (1998) tripartite model, and then detail the development of its accompanying operational definition. Finally, we articulate research questions and hypotheses underlying this largely exploratory study of how U.S. American adults express affection in their relationships.

Affection exchange theory

A substantial body of empirical research associates human affection exchange with a host of physical, psychological, and relational benefits. One framework explaining these associations is affection exchange theory (AET: Floyd, 2006a, 2019). AET is a neo-Darwinian theory that locates affectionate communication as an innate, adaptive resource used to solicit and maintain significant advantages and rewards within social and familiar relationships. Closeness, companionship, solidarity, mating potential, and the physical and mental health benefits of communicating affection are theorized to promote viability and survival as humans discriminately exchange affection-based resources in order to gain the advantages, rewards, and other resources needed to advance longevity outcomes for themselves and for those they love.

AET proposes that communicating affection – especially in the context of close relationships – enhances physical and mental well-being by strengthening the body's ability to manage stress. Researchers have long supported the contention of AET that affectionate communication improves the body's stress response, buffers against heightened physiological responses to various stressors, and accelerates stress recovery more efficiently than other activities (e.g., Floyd, Hesse, & Haynes, 2007; Floyd et al., 2007; Floyd & Riforgiate, 2008). To the extent that elevated stress predicts numerous mental and physical detriments (e.g., Webster Marketon & Glaser, 2008), the exchange

of affection, particularly between individuals who care about each other, has the potential to improve the body's stress response thereby improving important cardiovascular, immune, and endocrine markers of health and vitality.

Thus, overall, individuals who are characterized as more affectionate in their interactions with others (as opposed to those who are less affectionate) should be advantaged in the competition for interpersonal resources, mating potential, and physical and emotional fitness (Hesse et al., 2020). Given the extent of its explanatory power, AET provides an insightful framework for understanding exactly why expressing and receiving affection is central to human wellness and viability.

Variation in forms of affectionate expression

One might suppose that communicating affection is such a natural human function as to make questions about *how* that task is accomplished seem superfluous. In actuality, people use a wide variety of both verbal and nonverbal behaviors to convey messages of affection, from touching and cuddling to mutual gaze, facial pleasantness, vocal warmth, self-disclosure, and even empathic listening (see Floyd, 2014a; Pendell, 2003).

Initial efforts to catalog the encoding of affectionate messages adopted, at least implicitly, a two-dimensional model, wherein affectionate messages were encoded either verbally (e.g., by saying "I like you" or "I love you") or nonverbally (e.g., by kissing, hugging, or holding hands). Some operational definitions of affectionate behavior even measured verbal and nonverbal expressions without distinguishing between them *a priori*. Noller (1978), for instance, examined videotaped interactions of 87 parent-child dyads and coded "the number of instances of interactive behavior that would normally be regarded as affectionate," including cuddling, kissing, and saying "I love you" (p. 317). Other measures placed specific emphasis on nonverbal expressions of affection, such as hugging or kissing (see Acker, Acker, & Pearson, 1973; Acker & Marton, 1984; Lovaas, Schaeffer, & Simmons, 1965). Floyd (1997a, 1997b, 1997) adopted the same two-factor model in the development of a self-report measure of affectionate behavior, as did Huston and Vangelisti (1991) in the development of their self-report measure of marital affection.

Logic would dictate that the combination of verbal and nonverbal expressions is both mutually exclusive and exhaustive. Largely unaccounted for in this two-factor model, however, is the possibility that, within particular relationships, people communicate affection by providing social and instrumental support, such as doing favors for each other, helping with projects, or lending the use of resources. Although such behaviors *can* accompany other, more direct expressions of affection within these relationships, they often do not. Regardless, the critical observation is that individuals in some relationships both *use supportive behaviors to convey affection* to each other and *decode these*

behaviors as such. This observation gave rise to Floyd and Morman's tripartite model for affectionate communication, described subsequently.

Floyd and Morman's Tripartite Model

In an effort to catalog more fully people's enacted affectionate behaviors, Floyd and Morman (1998) proposed a tripartite model that includes both a *verbal* category and a *direct nonverbal* category. In the former category belong statements of affectionate meaning, such as "I love you," "I care about you," and "I am in love with you," whether those statements are spoken aloud, written, conveyed in an electronic text format (e.g., an e-mail or text message), or expressed via sign language. In each instance, the affectionate sentiment is conveyed through words, distinguishing it from behaviors belonging to the latter category. In North American cultures, nonverbal affectionate gestures typically comprise behaviors such as kissing, hugging, handholding, warm touch, smiling, and sexual interaction.

Although these categories are logically exhaustive, Floyd and Morman (1998) were persuaded by the arguments of Swain (1989), Wood and Inman (1993), and Parks and Floyd (1996) to consider that, in some circumstances, people may elect to encode affectionate messages "covertly," via seemingly innocuous or task-oriented behaviors. Swain suggested that such a tactic is common in men's friendships as a way for men to convey affectionate sentiments in a manner unlikely to attract judgmental attention from third-party observers, who may critique such behaviors as gender-atypical (see Morman & Floyd, 1998). Extending that argument, Floyd and Morman also anticipated that people may enact affectionate messages covertly when social norms proscribe more overt expressions or when they want to preserve plausible deniability of their affectionate intentions, and they may also use task-oriented behaviors as a means of providing tangible aid to recipients (such as conveying one's affection by helping with a household task).

These observations led Floyd and Morman (1998) to argue that although a verbal-nonverbal binary was logically exhaustive, considering only overtly affectionate verbal and nonverbal messages as legitimate would likely omit many valid forms of affectionate expression. Thus, Floyd and Morman proposed a tripartite model of affectionate behavior. That model distinguishes between messages that are encoded verbally, via direct nonverbal gestures, and via socially supportive behaviors, such as instrumental support done for the purpose of conveying affection. In this context, the qualifier of "direct" nonverbal gestures denotes nonverbal behaviors that are readily decoded as affectionate within the social and cultural context in which they are enacted, such as hugging, kissing, and handholding frequently are within North American cultures. Socially supportive behaviors – although they technically can be either verbal or nonverbal in nature – are those that convey an affectionate sentiment in the form of a behavior that, even devoid of its affectionate

subtext, embodies help or support to the recipient. As such, Floyd has at times referred to this category as "indirect" affection (see Floyd, 2006a) to recognize that socially supportive behaviors enacted for the purpose of conveying affection may nonetheless not be interpreted by others as affectionate. (Indeed, this is the very essence of Swain's 1989 argument that such behaviors are "covert.")

Operationalization of the Tripartite Model

Floyd and Morman (1998) tripartite model was operationalized in the form of the Affectionate Communication Index (ACI), a self- or other-report instrument that assesses the frequency of verbal, nonverbal, and socially supportive affectionate behavior within a specified relationship. To create the ACI, Floyd and Morman began with an inductive approach that comprised asking participants what they did to express affection in their closest relationships. As described by Floyd (2019), initial data collections culled individual behaviors from people's descriptions of how they conveyed affection. Those behaviors most commonly mentioned were then used in early versions of the ACI, and after a series of exploratory and confirmatory factor analyses and tests of psychometric adequacy, the 18-item current version of the ACI was published.

Despite its frequent use in empirical research (see Floyd, 2019), the ACI – and indeed, the tripartite model it reflects – are limited insofar as the exploratory research used to identify the initial pool of behavioral items was based on small, nonrepresentative samples of adults. No prior research has used a representative sample to ascertain which behaviors are, in fact, most commonly used to communicate affection.

The lack of such research on which to base measurement models and operational definitions may have at least two separate effects on the affectionate communication literature. One effect is that some consequential behaviors may be overlooked. For instance, the exploratory research forming the basis for the ACI was conducted in the mid- to late-1990s, before e-mail was widely used by the public and long before the emergence of social media or smartphone technologies. As these communication *channels* have emerged, they have given rise to potentially new *behaviors* through which affection can be expressed. Researchers such as Mansson and Myers (2011) and Quan-Haase and Young (2010) have documented that people adapt the affordances of platforms such as Facebook and instant messaging to the task of expressing affection. To the extent that such behaviors – such as posting profile pictures with another person and putting another user among one's top friends – are common relative to other forms of affectionate expression, they are not being captured by the ACI. A second effect is that some relatively infrequent or less-consequential behaviors may be captured by the ACI, and/or their importance may be amplified by the ACI or the tripartite model. For example, nonverbal behaviors such as winking at someone – a behavior currently included in the

ACI – may be not only less frequent but also less important than other behaviors that are not currently represented.

Consequently, without the benefit of a representative sample with which to do exploratory analyses, current measurement instruments may, in effect, be committing both alpha errors – by measuring items that ought not be measured – and beta errors – by excluding items that should be included. These limitations certainly do not invalidate the empirical literature on affectionate communication, which uses a wide variety of operational definitions and manipulations (see Floyd, 2019, for an extensive review), but they do generate the possibility that both theoretic understanding and operational accuracy can be enhanced by examining data from a better representation of the population.

Toward that end, the present study reports exploratory analyses of data from a Census-matched representative national sample of U.S. American adults. We acknowledge upfront that culture/national origin influences the expression of affection (Mansson & Sigurðardóttir, 2017) and that children may communicate affection in ways that differ systematically from those used by adults (Eberly & Montemayor, 1999). This study therefore does not attempt to provide a comprehensive answer to how affection is communicated, but rather, to provide a generalizable look at how affection is communicated by adults in the United States. Specific hypotheses and research questions are described subsequently.

Hypotheses and research questions

This is principally an exploratory study to document the frequency and forms of affectionate expressions among U.S. American adults; consequently, it is driven primarily by research questions, rather than theoretically derived hypotheses. We began the exploration by asking who communicates affection, and how frequently:

> RQ1: What percentage of adults communicate affection in a 24-hour period, and what differentiates those who have from those who have not?

> RQ2: How many affectionate expressions do adults make, on average, in a 24-hour period?

The representative nature of the sample also allowed us to replicate previously documented findings regarding who is most likely to be affectionate. Perhaps the most common finding in the affectionate communication literature is that women are, on average, more expressive of affection than men (see Floyd, York, & Ray, 2020). As Floyd (2019) indicated, virtually every study examining the effect of sex has found that women express more affection in their relationships than men do, and those that have not (e.g., Bombar & Littig, 1996; Carton & Horan, 2014; Floyd, 1997b; McCabe, 1987) have reported null results. AET

provides no direct explanation for this persistent finding, but it is often explained with reference to gender role socialization – that is, that affectionate behavior is modeled by and reinforced for females while being punished as effeminate for males (see Fabes & Martin, 1991; Rane & Draper, 1995). It is also plausible that, as Taylor et al. (2000) proposed, affectionate behavior evolved to serve stress-modulation functions in females that it does not serve in males, which may account for its greater observed frequency in women. In line with that speculation, Floyd et al. (2020) found that trait expressed affection is substantially more heritable in women than in men. AET's neo-Darwinian frame would favor the evolutionary explanation, although evolved differences may nonetheless be sustained through modeling and reinforcement, as the social learning explanation suggests. In the current study, we seek to determine whether this finding replicates with the current study's Census-matched sample:

H1: Women report enacting more expressions of affection than do men.

To further explore the characteristics of affectionate individuals, we additionally propose that participants' reports of their affectionate behavior are positively associated with their assessments of their trait affectionate tendencies. Floyd (2002) proposed that affectionate communication can be conceptualized not only as a discrete behavior but also as a behavioral trait, in that some people routinely express and receive more affection than others. Multiple studies have shown that the affectionate behavioral tendency can be assessed as a trait (e.g., Floyd, 2006b; Floyd et al., 2020), so we hypothesize that people who routinely give and receive more affection will also report more affectionate expressions in this study. Conversely, we expect more affectionate behavior from those who score lower on affection deprivation, an index of one's perceived deficit in desired affection (Floyd, 2014b; Hesse & Mikkelson, 2017).

Moreover, previous studies have documented that affectionate communication in close relationships is inversely associated with loneliness (Mansson, 2013). AET explains that affectionate behavior is a fundamental manifestation of the adaptive need to belong, and loneliness represents the perception that one's need to belong has been thwarted (Baumeister, Brewer, Tice, & Twenge, 2007). It logically follows that affectionate behavior is inversely associated with reported loneliness. Finally, affectionate communication has been shown to be negatively related to chronic pain (Floyd, 2016), an association predicted by the neurological "overlap" in the processing of social pain – produced by loneliness and the lack of affection – and physical pain (Bush, Luu, & Posner, 2000; Eisenberger & Lieberman, 2004). To the extent that lacking affection is aversive emotionally, that is, it can also be painful physically because of overlap in how the brain processes signals of social and physical pain.

We therefore sought to replicate these findings with this representative sample:

H2: Adults' number of affectionate expressions is positively related to a) trait expressed affection and b) trait received affection, and negatively related to c) affection deprivation, d) loneliness, and e) chronic pain.

Our primary interest in this study is to explore how affection gets expressed. Toward that end, we asked which behaviors people use, in which relationships they communicate affection, and which communication modalities are most commonly employed:

RQ3: Which behaviors do adults use to express affection?

RQ4: To whom do adults express affection most often?

RQ5: Via which communication modalities do adults express affection?

Method

Participants

Participants (N = 1,121) were 498 men, 599 women, 4 transgender individuals, and 9 who reported another gender identity (e.g., nonbinary), who ranged in age from 18 to 96 years (M = 45.05 years, SD = 16.86). With respect to ethnicity, 15.3% of participants were of Hispanic, Latino, and/or Spanish origin; with respect to racial identity; 69.8% were white/Caucasian; 12.7% were Black/African American; 4.8% were Asian/Pacific Islander; 3.7% were Native American or Aleut; 0.2% were Arab; and 1.4% claimed other racial identities.[1] At the time of the study, 30.0% of participants were single/never married; 36.3% were married; 12.9% were not married but in a significant romantic relationship, 14.3% were divorced, and 5.4% were widowed. Most participants (86.4%) identified as exclusively or mostly heterosexual, whereas 4.4% identified as exclusively or mostly homosexual, 6.2% as exclusively or mostly bisexual, and 2.0% claimed other sexualities or elected not to answer. Thirty-nine percent of the sample had completed a high school education or less, whereas 29.0% had an associate degree or technical school certificate, 21.4% had a bachelor's degree, and 10.6% had a graduate degree. The sample represented all 50 U.S. states and the District of Columbia.

Procedure

Participants were recruited using a U.S. Census-matched MTurk Prime Panel. The panel identifies Census-driven percentages of participants by age group, gender, ethnicity, and race and recruits until each group is properly represented. Each prospective participant received a link to an online questionnaire, and those who elected to take part filled out the questionnaire and submitted it

electronically. In exchange for their participation, respondents were able to direct a payment to a charity of their choice.[2]

A total of 1,234 participants was originally recruited. We subsequently removed 113 (8.9%) for failing an embedded attention check in the questionnaire, resulting in the current sample size of 1,121. Completion times for the questionnaire – which we expected to vary widely based on how many affectionate expressions, if any, a given participant reported – ranged from 1 minute, 30 seconds to 59 minutes, 54 seconds (M = 10 minutes, 28.8 seconds, SD = 7 minutes, 15.87 seconds).[3]

The study's methods and analytical strategy were preregistered with Open Science Framework on September 19, 2019, and the study was approved by the university's institutional review board.[4]

Measures

We asked a series of questions to catalog participants' experiences of affectionate communication in the previous 24 hours. First, we asked, "how many times (if at all) have you expressed affection to someone else, in any manner?" and participants responded with a whole number. We then asked participants to think about the first of those instances and to indicate the kind of relationship they had with the recipient: spouse or romantic partner; parent or parent-in-law; child (including step-child, adopted child, foster child); sibling (including half- and step-sibling, adoptive sibling, sibling-in-law); another type of relative; friend or neighbor who is not a romantic partner or relative; coworker; stranger or casual acquaintance; or other.

Participants were then presented with the open-ended question, "Please describe what you did to express affection to this person," and were given a text box in which to write their answer. The next question asked them to indicate the context in which they communicated their affection to the recipient: in person/face to face; over the telephone; by e-mail; via text or instant message; in a handwritten letter, note or card; via social media other than text or instant message; or other. After describing each affectionate incident, participants were asked whether that was the last incident in the previous 24 hours, or if there were more. If participants clicked on the option indicating that there were additional affectionate incidents, they were taken to a new page and asked to answer the same questions again. They repeated this process until they had described each incident of affectionate expression from the previous 24 hours.[5]

We included additional measures to ascertain their associations with the affection expressions participants described in this study. *Trait affectionate communication* was assessed using the factor-based Trait Affection Scale (Floyd, 2002). The scale comprises separate subscales for trait received affection (TAS-G; McDonald's ω = .92)[6] and trait expressed affection (TAS-R; ω =

.89). *Affection deprivation* was measured with Floyd's (2014b) Affection Deprivation Scale. The 9-point Likert scale asks participants to indicate their level of agreement with items such as "I don't get enough affection from others," "I often wish I got more affection in my life," and "In general, I feel deprived of affection." Higher scores index a greater level of perceived affection deprivation (ω = .89). *Loneliness* was measured using the UCLA Loneliness Scale (version 3; Russell, 1996). The widely used 20-item scale assesses agreement with items such as "I have nobody to talk to," "I feel completely alone," and "People are around me but not with me" (ω = .87). *Pain* was measured using the pain subscale of the RAND Corporation Short Form Health Survey 36 (SF-36; Hays, Sherbourne, & Mazel, 1995). The items on the pain subscale were "How much bodily pain have you had during the past 4 weeks?" and "During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?" Answers were assessed on an 11-point scale wherein higher scores indicate greater pain (ω = .94).

Descriptive statistics and intercorrelations for self-report scales appear in Table 1.

Coding of study responses

Responses to the open-ended question of how participants communicated affection to others were coded through an iterative process to construct a thematic typology of behaviors. First, the two senior authors independently reviewed the first ten percent of responses to generate candidate typologies, adding new categories to represent responses not accounted for by existing categories and continuing until no new categories were required. The senior authors then met to compare their typologies and, through discussion, to combine them into a single typology. There was approximately 90% overlap in the two senior authors' initial iterations of the typology, so only the remaining 10% required discussion to resolve.

These authors then coded the first and second ten percent of responses into their typology, examined intercoder reliabilities (based on Cohen's kappa), and on the basis of this coding, the authors added specificity to the codebook

Table 1. Descriptive statistics and intercorrelations for self-report measures (N = 1,121).

Outcome	Min	Max	*M*	*SD*	2	3	4	5
1. Affection given	1.00	9.00	6.14	1.88	.53*	−.03	−.46*	.05
2. Affection received	1.00	9.00	5.39	1.95	−	−.53*	−.71*	−.01
3. Affection deprivation	1.00	9.00	4.90	1.89		−	.65*	.13
4. Loneliness	1.00	9.00	4.02	1.85			−	.14*
5. Pain	0.00	9.33	3.39	2.66				−

All variables were measured on a scale of 1–9 except for pain, which was measured from 0–11. *p < .01 (two-tailed).

and the rules for distinguishing each category from the others. These initial kappa estimates appear in Table 2.

Subsequently, the two junior authors independently coded the third ten percent of the responses, and all four authors met to resolve disagreements through discussion and to refine the codebook further. At this point in the coding process, there was no disagreement regarding what the conceptual categories were; rather, all disagreement centered on conceptual overlap *between* the categories, such that one coder may have coded an event into one category while the other coder coded the same event into a separate category. Discussion therefore centered on how to distinguish the categories from each other with even greater specificity and concreteness. The two junior authors then coded the fourth ten percent of the responses, and Cohen's kappa values (see Table 2) indicate acceptable intercoder reliability across categories. Finally, the remaining responses were divided between the two junior authors for coding.

Results

Who communicates affection? (RQ1)

When asked whether they had expressed affection to anyone, in any manner, within the last 24 hours, 938 (83.7%) participants said they had, whereas 183 (16.3%) said they had not. Those who had been affectionate in the previous 24 hours were younger ($M = 44.12$ years, $SD = 16.46$) than those who had not ($M = 49.93$ years, $SD = 18.09$), Welch's t (238.30) = 4.00, p (2-tailed) < .001, Cohen's $d = .33$.[7] Those expressing affection were more likely to be female than male, χ^2 (1) = 14.55, $p < .001$; less likely to be Asian than non-Asian, χ^2 (1) = 5.58, $p = .02$; and less likely to be Black than non-Black, χ^2 (1) = 4.98, $p = .03$

Table 2. Intercoder reliability estimates, based on Cohen's Kappa, for thematic analysis of affection behaviors.

Theme	First-Pass Kappas	Final-Pass Kappas	M
Verbal	0.86	0.93	0.90
Kissing	0.94	0.97	0.96
Cooking	1.00	1.00	1.00
Hugging	0.95	0.96	0.96
Shared activity	0.89	0.77	0.83
Listening	0.89	0.53	0.71
Complimenting	0.75	0.81	0.78
Hand holding	1.00	1.00	1.00
Other touch	1.00	0.90	0.95
Conversation	0.87	0.80	0.84
Helping	1.00	0.85	0.93
Sex	0.91	0.86	0.89
Flirting	1.00	1.00	1.00

First-pass kappas are based on two senior authors' coding of first 20% of responses; final-pass kappas are based on two junior authors' coding of second 20% of responses. Means observe typical rounding rules.

(other associations with race/ethnicity were nonsignificant). They were also more likely to be married or in a significant romantic relationship than single, divorced, or widowed, χ^2 (5) = 92.02, p < .001; and more likely to be heterosexual or bisexual than homosexual or of another or unreported sexuality, χ^2 (5) = 25.53, p < .001. There was no association with education level.

Those who had been affectionate in the previous 24 hours scored higher on trait expressed affection (M = 6.40, SD = 1.78) than those who had not (M = 4.86, SD = 1.91), Welch's t (239.64) = −9.89, p (2-tailed) < .001, d = .84; and higher on trait received affection (M = 5.64, SD = 1.88) than those who had not (M = 4.16, SD = 1.77), Welch's t (261.08) = −10.16, p (2-tailed) < .001, d = .81. Participants who had been affectionate were also less lonely (M = 3.82, SD = 1.80) than those who had not (M = 4.88, SD = 1.80), Welch's t (250.72) = 7.18, p (2-tailed) < .001, d = .59; and less deprived of affection (M = 4.83, SD = 1.88) than those who had not (M = 5.18, SD = 1.95), Welch's t (245.35) = 2.25, p (2-tailed) = .03, d = .18. However, those who had been affectionate reported more chronic pain (M = 3.46, SD = 2.71) than those who had not (M = 2.99, SD = 2.41), Welch's t (270.94) = −2.18, p (2-tailed) = .03, d = .18.

How many affectionate expressions do adults make? (RQ2, H1, H2)

Considering only those participants who had expressed affection at least once in the previous 24 hours, the number of discrete affectionate expressions reported in that time period ranged from 1 to 45, with an average of 5.71 (SD = 6.15). The number of expressions was inversely associated with age, r (900) = −.16, p (2-tailed) < .001. Participants who identified as Native American or Aleut reported more expressions (M = 9.33, SD = 9.15) than those who did not (M = 5.57, SD = 5.98), Welch's t (33.03) = 2.34, p (2-tailed) = .03, d = .49; no other racial or ethnic comparisons were significant.

A oneway ANOVA found that the number of expressions varied as a function of relationship status, F (4, 898) = 16.09, p < .001, η^2 = .07. A post-hoc comparison with the moderately conservative Student-Newman-Keuls (SNK) test revealed that participants who were not married but in a significant romantic relationship reported significantly more expressions (M = 8.76, SD = 8.24) than did those who were single (M = 4.06, SD = 4.07), married (M = 6.14, SD = 6.25), divorced (M = 4.16, SD = 4.45), or widowed (M = 5.27, SD = 6.15); the latter four groups did not differ significantly from each other. The number of expressions did not vary as a function of sexuality or education level.

H1 hypothesized that women report a higher number of discrete expressions than do men. A comparison among genders was significant, F (3, 902) = 4.42, p = .004, η^2 = .01, and in support of the prediction, a planned, single-df contrast revealed that women reported more expressions (M = 6.32, SD = 6.49)

than did men (M = 4.86, SD = 5.61), t (902) = 3.54, p < .001, d = .24. H1 is supported.

H2 predicted that the number of affectionate expressions during a 24-hour period is positively related to a) trait expressed affection and b) trait received affection, and negatively related to c) affection deprivation, d) loneliness, and e) chronic pain. In support of the prediction, the number of affectionate expressions reported in a 24-hour period was linearly related to scores on trait expressed affection, r (911) = .17, p < .001, and trait received affection, r (911) = .12, p < .001, and negatively associated with loneliness, r (911) = −.08, p = .01. However, it was unrelated to affection deprivation, r (910) = −.05, p = .08, and was positively associated with chronic pain, r (911) = .12, p < .001. H2 is partially supported.

How do people communicate affection? (RQ3)

Among the 938 participants who reported having expressed affection within the previous 24 hours, a total of 2,177 discrete affection events was documented. The behaviors as coded are described below, in order of frequency, along with their relative frequencies and quoted examples (spelling and grammatical errors have been retained).

Verbal expressions of love of care (41.5%) comprised references to spoken or written messages of affection, love, or liking. Some entries specified the actual words communicated ("I said 'I love you'"), whereas others paraphrased the words communicated ("On the telephone, expressed my love for her," "Told spouse I cared for her and loved her").

Hugging (32.8%) consisted of references specifically to hugging, embracing, holding, cuddling, or snuggling, such as "I hugged them," "Gave a hug before bed," and "Snuggled with him." References to holding hands or other forms of affectionate touch were not included in this category.

Kissing (27.2%) included references to giving someone a kiss. Some such references specified a location of the kiss, such as "kissed her on the forehead" and "I kissed them on the cheek." Others were nonspecific as to location, such as "kissed her" and "[gave] a kiss goodbye."

Complimenting and encouraging (11.9%) consisted of references to offering someone compliments, appreciation, gratitude, encouragement, and/or reassurance, or expressing pride in someone, such as "I told them that I hope they have a good day at work" and "Said, 'you did a great job.'" This category also included celebratory phrases/congratulations/affirmations (including "happy birthday" and "happy anniversary"). Behaviors coded in this category could be either spoken or written.

Listening and responding (8.0%) included references to listening, paying attention, and/or offering advice, feedback, or perspective, asking how the other person is, or expressing care or concern. Entries in this category

included "Listened to a problem she was having and tried to give her advice," "Called them to see how they were doing," and "Listened to his concerns and worries."

Helping (6.7%) comprised references to offering help or assistance ("I helped her run errands"), including task assistance and financial assistance ("Babysat his kids," "Donated money for her daughter's medical expenses"), and/or buying items for someone.

Shared activity (5.4%) consisted of references to sharing some type of activity, whether the particular activity is specified or not. Examples included "we went to dinner," "watched TV together," and "going to park with him."

Cooking (4.5%) included references to cooking or preparing food/meals for another person, such as "made her lunch for work," "made dinner," and "cooking dinner for them."

Other touch (4.1%) consisted of references to *specific* forms of touch other than touch that would be coded as kissing, hugging, or hand holding. Entries included "touched their shoulder," "gave a back rub," and "I rubbed his arm."

Conversation event (3.1%) comprised references to talking or conversing with someone, having a significant conversation, or related expressions. Some entries referred to the content of conversations, such as "we had a conversation about issues in our relationship." Other entries simply made reference to the conversation itself as an expression of affection, such as "we had a chat."

Sex (2.4%) included references to having sex, making love, having intercourse, or related behaviors, such as "we had marital relations before going to sleep." Many entries coded into this category also referenced other behavioral categories, such as "kissed hugged and had sex" and "cooked for them, made love," and were therefore cross-coded. Entries were not coded into this category if the reference was only to kissing or flirting.

Hand holding (1.9%) comprised references to holding someone's hand, such as "holding hands in public" and "held their hand."

Flirting (0.7%) consisted of references to flirtatious behavior, sweet-talking, using pet names, and/or being playful or seductive. These included "sweet nickname calling," "flirted with them," and "texted in flirtations [sic] manner."

Finally, the **uncategorized** (2.4%) entry was used to code entries not captured by other categories. Entries included "good news," "to express our relationship with each other," and (for offering affection to an animal) "I gave it a warm bed and fed it."

Because some reported behaviors made reference to more than one category (e.g., kissing and having sex), each reported behavior was coded into as many categories as appropriate. Reported behaviors were coded into between 1 and 8 categories, $M = 1.53$ categories, $SD = 0.81$.

To whom are people affectionate, and via which communication modalities? (RQ4, RQ5)

For each expression of affection described, participants were asked to indicate the nature of the relationship they had with the recipient of the expression. As shown in Table 3, the most common target was a spouse or romantic partner, followed by a child, a friend or neighbor, and a parent. Collectively, these four relationships accounted for nearly 83% of the reported expressions. The 4.5% of participants reporting expressions to "other" types of relationships identified, as targets, students they taught, an ex-romantic partner, a friend's child, a fellow church member, and pets.

For each expression, participants were also asked to identify the communication modality they used. As Table 4 shows, face-to-face expressions were overwhelmingly the most popular, followed by expressions over the telephone and via text or instant message.[8] Together, these three modalities accounted for over 95% of all documented expressions.

Discussion

Using a Census-matched sample, we explored how U.S. American adults communicate affection. We hypothesized that women are more affectionate than men, on average, and that reported affectionate communication is directly related to trait-level expressed and received affection and inversely

Table 3. Frequencies of affectionate expressions by relationship type.

Relationship	n	Percent
My spouse or romantic partner	943	43.3
My child (including step-child, adopted child, foster child)	480	22.0
My friend or neighbor who is not a romantic partner or relative	201	9.2
My parent or parent-in-law	174	8.0
Another type of relative	102	4.7
My sibling (including half- and step-sibling, adoptive sibling, sibling-in-law)	93	4.3
A stranger of casual acquaintance	41	1.9
My coworker	40	1.8
Other	98	4.5
Missing	5	0.2

$N = 2,177$ expressions.

Table 4. Frequencies of affectionate expressions by modality.

Modality	n	Percent
In person/face to face	1,663	76.4
Over the telephone	241	11.1
Via text or instant message (IM)	171	7.9
Via social media other than text or IM	31	1.4
By e-mail	20	0.9
In a handwritten letter, note, or card	11	0.5
Other or missing	40	2.0

$N = 2,177$ expressions.

related to affection deprivation, loneliness, and pain. We also asked who communicates affection, how often, via which behaviors, toward which targets, and via which communication modalities. Results revealed that affectionate expressions were common, in general; were more common for some groups than for others; were enacted using a wide range of behaviors; represented a range of relationships and communication modalities; and were associated with trait levels of affection, loneliness, and chronic pain. These largely exploratory findings have implications for theory and extant empirical work, as well as for conceptual and operational definitions used in the affectionate communication literature. These implications are discussed subsequently and are followed by assessments of the study's strengths, limitations, and conclusions.

Theoretic and empirical implications

AET implies that affectionate communication is relatively ubiquitous in human interaction, an implication supported by the present finding that nearly 84% of participants had expressed affection to someone else in the previous 24-hour period. Research based on AET has long documented individual differences in the general tendency to be affectionate (see Floyd, 2002), yet no previous research has identified the prevalence of affectionate communication behaviors in the general public. We contend that its high prevalence, as demonstrated here, supports both theoretic and empirical efforts to understand the behavior better.

As Floyd (2019) explained, nearly every empirical study comparing women and men's affectionate behavior has found women to be more expressive of affection than men, and that contention received support both from the finding that women were more likely than men to have communicated affection in the previous 24 hours and also from the finding that, among those who did express affection, women enacted more such expressions than did men. AET provides little direct guidance as to why women are more affectionate than men, yet some researchers – including Taylor et al. (2000) and Floyd et al. (2020) – have speculated that affectionate behavior more directly serves the evolutionary survival imperative for women than for men. This is, perhaps, why Floyd et al. (2020) found that the trait-level tendency toward affection is substantially more heritable for women than for men.

Floyd (2014b, 2016) used AET to argue that if affectionate behavior is beneficial to mental and physical wellness, then it should be negatively associated with health detriments. In the present study, we hypothesized that the number of affectionate behaviors expressed in 24 hours is negatively associated with loneliness (a mental outcome) and chronic pain (a physical outcome), as well as with the perception that one is deprived of affection. As anticipated, people who engaged in more affectionate acts were less lonely. Although that

finding comports with AET's logic and with the findings of Floyd (2014b), its correlational nature leaves questions about causality unresolved. It is certainly possible that communicating affection reinforces emotional bonds, mitigating loneliness; it is also possible that feeling lonely inhibits the tendency to express affection. The causal nature may also be bi-directional, and it is even conceivable that both outcomes are caused by a third variable, rendering their correlation spurious. These possibilities await adjudication.

Contrary to expectations, however, the number of affectionate acts in a 24-hour period was unrelated to affection deprivation. The nonsignificant association with affection deprivation is surprising, given that those who had enacted *any* affectionate expressions in the previous 24 hours were, as a group, significantly less affection deprived than those who had enacted no affectionate expressions. Thus, the expected pattern emerged at the categorical level, but affection deprivation showed no significant linear association with the number of affectionate acts. Even more puzzling was that, contrary to the hypothesis, the number of affectionate acts showed a direct correlation with chronic pain, rather than the expected inverse correlation. Thus, the more often people showed affection, the more they suffered from chronic physical pain. As with loneliness, the correlation with pain cannot confirm any causal claims. To the extent that some affectionate behaviors can ameliorate pain (see Floyd, Ray, van Raalte, Stein, & Generous, 2018), one plausible speculation is that the experience of pain motivates people to be more affectionate with others as a potentially restorative behavior. It is perhaps less plausible to speculate that engaging in affectionate behavior causes or exacerbates pain, but such a possibility cannot be ruled out with the present data alone. A spurious correlation is certainly also possible, if, for instance, a demographic or health-related variable predicted both outcomes.

Conceptual and operational implications

There was substantial variation in the forms and frequencies of affectionate expressions that participants described, and this has implications for both conceptual models (such as Floyd and Morman's tripartite model) and operational definitions (such as the ACI). With respect to representation, the coded descriptions of affectionate behavior reflected all three categories in the tripartite model – verbal, direct nonverbal, and socially supportive behavior – although not with equal frequency, as addressed subsequently. We considered the categories of shared activity, helping, and cooking reflective of the socially supportive category, given their instrumental focus and given that none comprises the overt expression of affection. Regarding the conceptual adequacy of the tripartite model, all three of its categories of behavior were reflected in the behaviors that participants described, and no coded form of

behavior from the current typology lay outside the conceptual boundaries of the tripartite model's three categories.

Affectionate acts coded from participants' descriptions varied widely not only in their form but also in their frequency. Three types of affectionate behavior – verbal expressions of love or care, hugging, and kissing – were reported relatively frequently, being represented in at least 25% of the descriptions. On the contrary, nearly all of the remaining forms of affectionate behavior were reflected in fewer than 10% of the descriptions. Floyd and Morman's model makes no claim regarding either the relative frequency or the relative importance of its three categories of affectionate behavior, save for the observation that socially supportive behavior was explored as a category because it may be favored in male-male relationships as a strategy for conveying affection in ways that are both instrumentally focused and covert (see Swain, 1989). In the present study, however, women and men were equally likely to describe affectionate behaviors coded into the categories of shared activity, $\chi^2 (1) = .21$, $p = .65$, and helping, $\chi^2 (1) = 1.13$, $p = .29$, and the instrumental behavior of cooking was significantly more often described by women than by men, $\chi^2 (1) = 8.24$, $p = .004$. Although these forms of affection reflect the socially supportive category of the tripartite model, they were not more likely to be identified by men than by women, as Swain's (1989) *covert intimacy* perspective would suggest.[9] It is important to note that the tripartite model does not actually imply a sex difference in the frequency of these affectionate behaviors; it was merely the possibility of such a difference that motivated inclusion of the socially supportive category in the model.

With respect to operationalizing affectionate communication, the current typology has implications for Floyd and Morman (1998) ACI. Because it is explicitly based on the tripartite model, the ACI comprises subscales measuring verbal, direct nonverbal, and socially supportive affectionate behaviors. In the current typology, verbal expression of love or care was the most commonly reported form of affectionate behavior, at 41.5%. Some other categories also directly implicated verbal behavior, including complimenting and encouraging (11.0%), listening and responding (8.0%), conversation event (3.1%), and even flirting (0.7%). Collectively, 64.3% of the descriptions invoked at least one category that implicated verbal behavior either directly (verbal expressions of love or care, complimenting and encouraging, conversation event) or potentially (listening and responding, flirting). This generally supports the inclusion of the verbal subscale in the ACI, although the items in the verbal subscale assess the frequency of specific statements (e.g., "say 'I love you,'" "say he or she is a good friend"), whereas specific utterances were not enumerated in the categories implicating verbal behavior. The individual descriptions in such categories (verbal expressions of love or care, complimenting and encouraging, listening and responding, conversation event, and flirting) could be

reassessed to identify the most common specific utterances, which could then be used to revise the verbal subscale of the ACI.

This study's typology also included several categories that are conceptually included in the tripartite model's direct nonverbal category. These include hugging (32.8%), kissing (27.2%), other touch (4.1%), sex (2.4%), and hand holding (1.9%), collectively representing 68.4% of participants' descriptions.[10] This supports the inclusion of the direct nonverbal subscale in the ACI. The subscale currently includes two items assessing hugging, two items assessing kissing, one item assessing hand holding, and one item assessing another form of touch ("give him or her a massage or backrub"), all of which reflect the present typology. However, it also includes one item assessing proximity ("sit close to him or her") and one item assessing winking, neither of which is reflected in the current typology. A revision of the subscale may delete the latter items based on their lack of representation. Moreover, the subscale includes no items related to sex or sexual activity, which was included in the present typology but had been omitted from the original version of the ACI in order to keep the scale applicable to both sexual and platonic relationships.

Finally, as mentioned above, the categories of shared activity, helping, and cooking in the current typology reflect socially supportive behaviors and collectively represent 16.6% of participants' descriptions. Floyd and Morman (1998) recognized that socially supportive behaviors would likely be the least commonly observed form of affectionate behavior, on average, and the current results support that contention. Of all three ACI subscales, the supportive behavior subscale is most in need of updating, according to the present study's findings. The subscale currently includes only one item ("help him or her with problems") reflecting a category in the current typology, so additional items assessing help, shared activity, and cooking may be warranted. Moreover, the subscale currently includes three items ("praise his or her accomplishments," "acknowledge his or her birthday," and "give him or her compliments") that conceptually represent the "complimenting and encouraging" category from the present typology and might therefore be moved to the verbal subscale. Finally, retention of the item "share private information" may not be supported by the current findings.

Whenever modifications are made to the ACI, the frequency of individual affectionate behaviors must be considered. If the ACI is to represent the behavioral phenomenon of affectionate communication in close relationships, then it is most important to represent behaviors that appear with greater frequency, such as verbal expressions of love, and perhaps even to weigh their contributions more strongly. Conversely, behaviors that appear with relatively low frequency, even if meaningful individual relationships, may be less appropriate for inclusion.

In addition to its implications for the ACI, the present results also have implications for the psychometric adequacy of Floyd's (2002) trait affection

scale-given (TAS-G), which was used as a measure in the present study to assess participants' trait-like tendencies to express affection to others. The predictive validity of the TAS-G is bolstered by both the significant association between trait expressed affection and participants' self-reported number of affectionate expressions in a 24-hour period and by the significant difference in TAS-G scores between those who had and had not communicated affection in the previous 24 hours. Regarding the former, one would not expect that an individual who scores highly on expressed affection as a trait is necessary highly affectionate every day, and indeed, the correlation coefficient was relatively weak, at $r = .17$. Had the correlation been nonsignificant, especially with the current sample size, that would have cast legitimate doubt on the scale's predictive validity. Certainly it would not have invalidated the scale wholesale, especially given that the correlation here is with a single-item measure, but it would have raised a legitimate question as to why a measure of trait-level affection is not significantly predictive of actual affectionate behavior. Moreover, scores on trait expressed affection were significantly higher for those who reported *any* affectionate behaviors in the previous 24 hours than for those who did not, with a substantial effect size estimate (Cohen's $d = .84$), which also supports the scale's predictive validity.

Strengths and limitations

As noted above, the primary methodological strength of the study was its use of a Census-matched representative sample of U.S. American adults. Samples in interpersonal communication studies are rarely representative of the population, but instead commonly overrepresent the perspectives and experiences of certain groups, such as white undergraduates (Afifi & Cornejo, 2020). The sampling method of the present study ensured that the proportions of demographic categories in the sample represented those of the U.S. adult population, substantially increasing the likelihood that the findings generalize to that population.

A second methodological strength was the approach of asking participants to describe specific affectionate behaviors from a specified time frame – the last 24 hours – rather than relying solely on trait-level measures of affectionate behavior. Trait-level measures, such as Floyd's (2002) TAS-G, index an individual's general tendency to communicate affection, irrespective of the relationship in which it occurs and largely irrespective of the behaviors through which it is expressed. Such an operational approach has been extremely fruitful for identifying the benefits associated with affectionate communication (for a recent meta-analysis of the health benefits, see Hesse et al., 2020). Nonetheless, a sole reliance on trait-level measurement would preclude examination of the specific behaviors used to convey affection, and asking participants how they *typically* communicate affection (as in Floyd & Morman, 1998)

would risk misrepresentation due to faulty memory and honesty (Subar et al., 2015) and/or inflation biases (Floyd, Generous, Clark, Simon, & McLeod, 2015). We contend that asking participants to consider only the previous 24 hours when reporting on their affectionate expressions warrants greater confidence (relative to other operational options) in the accuracy of the reports.

As we acknowledged in the literature review, the sampling frame included only U.S. American adults. This was a deliberate limitation, one that excluded data from minors and from those in countries other than the United States. Because the goal of the current study was to obtain a representative sample, we intentionally restricted sampling to participants in U.S. states and the District of Columbia, and because the online nature of the data collection made obtaining both participant assent and parental consent unfeasible, we did not include children in the sampling frame. Both decisions limit the generalizability of the findings to the population of U.S. American adults.

Future research aimed at replicating these exploratory procedures with participants in non-U.S. countries would therefore be highly valuable to identify cross-cultural consistency and variability in how affectionate people are and via which behaviors they express affection. Mansson (Mansson et al., 2016; Mansson & Sigurðardóttir, 2017) has demonstrated not only that U.S. Americans are more expressive of affection than citizens of many other countries (see also Wu et al., 2014) but also that affectionate expression covaries systematically with several of Hofstede's cultural dimensions (Hofstede & Hofstede, 2010), including individualism, uncertainty avoidance, power distance, and cultural masculinity/femininity. Left undocumented, however, are potential differences in the behaviors used to communicate, which likely vary cross-culturally. For instance, kissing emerged in the present study as one of the three most common affectionate communication behaviors for U.S. American adults, yet anthropological research compiled by Jankowiak, Volsche, and Garcia (2015) demonstrated that romantic-sexual kissing is common in only 46% percent of known human cultures. Their analysis found that the romantic-sexual kiss is most common in Asia and the Middle East and least common in Central America. Affectionate kissing is not necessarily sexual or romantic, of course, but is also observed in platonic (Anderson, Adams, & Rivers, 2012) and familial (Harrison-Speake & Willis, 1995) interaction. Nonetheless, cultural differences in comfort with touch (Remland & Jones, 1988) likely cause the frequency of kissing, hugging, hand holding, and other tactile affectionate behaviors to vary across cultures in a range of relationships. A compelling question, then, is which forms of affectionate expression are common in cultures less likely to enact affectionate touch.

A second limitation of the sampling frame is that the present findings do not necessarily generalize to children. Little research has thus far explored

affectionate behavior in children, but there is evidence that the frequency of affection covaries with age. In two studies, Eberly and Montemayor (1998, 1999) found that sixth-grade students were more affectionate than eighth- and tenth-grade students (the latter of whom did not differ from each other), but also that sixth- and eighth-grade students were less affectionate toward their parents than were tenth-grade students. Similarly, in a study of men's relationships with their preadolescent sons (ages 7 to 12 years), Salt (1991) reported that sons' age was inversely related to affectionate touch in the paternal relationship. As with culture, however, variation in the specific behaviors used to convey affection is, as yet, undocumented as a function of age, providing a useful question for future research.

Despite the empirical advantages (described above) of asking people to describe specific affectionate acts from the previous 24 hours, we acknowledge the potential for participant fatigue that this approach may have introduced. It is possible that some participants underreported their affectionate behaviors – or described none altogether – due to fatigue rather than a genuine lack of affectionate expressions. Our strong contention is that the advantages of this methodological approach outweigh this potential limitation, but the limitation must nonetheless be acknowledged.

Conclusions

This is a study that perhaps should have been conducted two decades ago, when the affectionate communication literature was still in its infancy. In particular, measurement models such as the affectionate communication index may have benefited from the greater specificity afforded by an exploratory cataloging of affectionate behaviors in a representative sample. Paradoxically, however, the theoretic and operational infrastructure represented in the present study would largely have precluded conducting the study two decades ago, insofar as most of that infrastructure has been developed in the last 20 years. Although these findings would have had utility at an earlier point in time, we contend that they are no less valuable now, and that they do warrant examining the tripartite model and, especially, the ACI. In particular, the "socially supportive" dimension of the tripartite model may require some reconsideration, at least insofar as its status relative to the other two dimensions, and all three subscales of the ACI could evidence greater validity if reconfigured on the basis of present findings.

Notes

1. These percentages sum to >100 because some participants selected more than one ethnic/racial identity.

2. When using Prime Panels, our survey platform (SurveyMonkey) offers participants the opportunity to make a donation to a charity of their choice in lieu of receiving a direct payment. SurveyMonkey sets the rate of remuneration and Prime Panels is not able to specify the exact amount.

3. We would normally remove cases in which the time to completion was more than 2 standard deviations below the mean, but that was impossible in this case because the standard deviation is less than half of the mean for completion time, so no cases were removed for completion time.

4. An anonymized view of the OSF preregistration is available at https://osf.io/by4va/?view_only=8103f507b0bd4736b381ae3680c31f34

5. To test the feasibility of the online questionnaire, we conducted a small pilot study ($N = 48$) using undergraduate communication students. There were 11 men, 30 women, and 7 who did not report a gender, ranging in age from 19 to 23 years ($M = 21.02$ years, $SD = 0.95$). Most (75%) identified as white/Caucasian, whereas 8.3% were of Hispanic, Latino, and/or Spanish origin; 4.2% were Asian/Pacific Islander; 2.1% were Black/African American; and 2.1% were Native American or Aleut. Most (97.6%) were single/never married, and 2.4% were married. Forty participants self-identified as heterosexual, two as bisexual, and the remainder did not identify a sexual orientation. Participants reported no difficulties completing the online questionnaire or submitting their responses. Most (87.5%) reported having communicated affection at least once within the previous 24-hour period, and when asked how many times they had done so, the modal responses were 4, 5, and 10 (with 7 participants reporting each number). The modal target was a spouse or romantic partner. In the pilot study, the average time to questionnaire completion was 8 minutes, 14 seconds.

6. Cronbach's alpha is perhaps the most commonly reported measure of internal reliability, yet recent research has advocated substituting McDonald's omega (ω), which is Cronbach's alpha's parent measure (Hayes & Coutts, 2020). Unlike alpha, McDonald's omega does not assume essential tau-equivalence, which is the assumption that "each item measures the same latent variable, on the same scale, but with possibly different degrees of precision" (Graham, 2006, p. 934).

7. Welch's t-test is preferred to the more widely known Student's t-test because they offer a more stable Type I error rate and are more robust to violations of normality and homogeneity of variance (Delacre, Lakens, & Leys, 2017). Moreover, Welch's t-test outperforms Student's t-test when sample sizes are unequal, and when data meet the homoscedasticity assumption, Welch's t-tests loses minimal robustness compared to the Student's t-test.

8. It should be noted that these data were collected before the imposition of social distancing recommendations or quarantine orders related to the COVID-19 outbreak in early 2020. Face-to-face contact was likely severely limited during the pandemic period.

9. These χ^2 tests included only those participants who self-identified as either female or male. Frequencies for these behaviors were too low to subdivide the χ^2 analyses into male-male, female-female, and male-female interaction.

10. The overall percentages of participants' descriptions reflecting verbal behaviors, direct nonverbal behaviors, and socially supportive behaviors sum to >100 because multiple descriptions included behaviors from more than one general category.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

Acker, L. E., Acker, M. A., & Pearson, D. (1973). Generalized imitative affection: Relationship to prior kinds of imitation training. *Journal of Experimental Child Psychology*, *16*(1), 111–125. doi:10.1016/0022-0965(73)90067-2

Acker, L. E., & Marton, J. (1984). Facilitation of affectionate-like behaviors in the play of young children. *Child Study Journal*, *14*(4), 255–269.

Afifi, W. A., & Cornejo, M. (2020). #CommSoWEIRD: The question of sample representativeness in interpersonal communication research. In M. L. Doerfel & J. L. Gibbs (Eds.), *Organizing inclusion: Moving diversity from demographics to communication processes* (pp. 238–259). New York, NY: Routledge. doi:10.4324/9780429450495

Anderson, E., Adams, A., & Rivers, I. (2012). "I kiss them because I love them": The emergence of heterosexual men kissing in British institutes of education. *Archives of Sexual Behavior*, *41* (2), 421–430. doi:10.1007/s10508-010-9678-0

Baumeister, R. F., Brewer, L. E., Tice, D. M., & Twenge, J. M. (2007). Thwarting the need to belong: Understanding the interpersonal and inner effects of social exclusion. *Social and Personality Psychology Compass*, *1*(1), 506–520. doi:10.1111/j.1751-9004.2007.00020.x

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. doi:10.1037/0033-2909.117.3.497

Bombar, M. L., & Littig, L. W. (1996). Babytalk as a communication of intimate attachment: An initial study in adult romances and friendships. *Personal Relationships*, *3*(2), 137–158. doi:10.1111/j.1475-6811.1996.tb00108.x

Bush, G., Luu, P., & Posner, M. I. (2000). Cognitive and emotional influences in anterior cingulate cortex. *Trends in Cognitive Sciences*, *4*(6), 215–222. doi:10.1016/S1364-6613(00) 01483-2

Carton, S. T., & Horan, S. M. (2014). A diary examination of romantic and sexual partners withholding affectionate messages. *Journal of Social and Personal Relationships*, *31*(2), 221–246. doi:10.1177/0265407513490587

Delacre, M., Lakens, D., & Leys, C. (2017). Why psychologists should by default use Welch's *t*-test instead of student's *t*-test. *International Review of Social Psychology*, *30*(1), 92–101. doi:10/5334/irsp.82

Demarinis, S. (2020, September-October). Loneliness at epidemic levels in America. *Explore (NY)*, *16*(5), 278–279. doi:10.016/j.explore.2020.06.008

Eberly, M. B., & Montemayor, R. (1998). Doing good deeds: An examination of adolescent prosocial behavior in the context of parent-adolescent relationships. *Journal of Adolescent Research*, *13*(4), 403–432. doi:10.1177/0743554898134003

Eberly, M. B., & Montemayor, R. (1999). Adolescent affection and helpfulness toward parents: A 2-year follow-up. *Journal of Early Adolescence*, *19*(2), 226–248. doi:10/1177/-27243169002005

Eisenberger, N. I., & Lieberman, M. D. (2004). Why rejection hurts: A common neural alarm system for physical and social pain. *Trends in Cognitive Sciences*, *8*(7), 294–300. doi:10.1016/j.tics.2004.05.010

Fabes, R. A., & Martin, C. L. (1991). Gender and age stereotypes of emotionality. *Personality and Social Psychology Bulletin*, *17*(5), 532–540. doi:10.1177/01461667291175008

Floyd, K. (1997a). Brotherly love II: A developmental perspective on liking, love, and closeness in the fraternal dyad. *Journal of Family Psychology*, *11*(2), 196–209. doi:10.1037/0893-3200.11.2.196

Floyd, K. (1997b). Communicating affection in dyadic relationships: An assessment of behavior and expectancies. *Communication Quarterly*, *45*(1), 68–80. doi:10.1080/01463379709370045

Floyd, K. (2002). Human affection exchange: V. Attributes of the highly affectionate. *Communication Quarterly*, *50*(2), 135–154. doi:10.1080/01463370209385653

Floyd, K. (2006a). *Communicating affection: Interpersonal behavior and social context*. Cambridge, UK: Cambridge University Press. https://doi.org/10.1017/CBO9780511606649

Floyd, K. (2006b). Human affection exchange: XII. Affectionate communication is associated with diurnal variation in salivary free cortisol. *Western Journal of Communication*, *70*(1), 47–63. doi:10.1080/10570310500506649

Floyd, K. (2014a). Empathic listening as an expression of interpersonal affection. *International Journal of Listening*, *28*(1), 1–12. doi:10.1080/10904018.2014.861293

Floyd, K. (2014b). Relational and health correlates of affection deprivation. *Western Journal of Communication*, *78*(4), 383–403. doi:10.1080/10570314.2014.927071

Floyd, K. (2015). *The loneliness cure: Six strategies for finding real connections in your life*. New York, NY: Simon & Schuster.

Floyd, K. (2016). Affection deprivation is associated with physical pain and poor sleep quality. *Communication Studies*, *67*(4), 379–398. doi:10.1080/10510974.2016.1205641

Floyd, K. (2019). *Affectionate communication in close relationships*. Cambridge University Press. https://doi.org/10.1017/97811008653510

Floyd, K., Generous, M. A., Clark, L., Simon, A., & McLeod, I. (2015). Empathy by physician assistant students: Evidence of an inflation bias. *Journal of Physician Assistant Education*, *26*(2), 94–98. doi:10.1097/JPA.0000000000000016

Floyd, K., Hesse, C., & Haynes, M. T. (2007). Human affection exchange: XV. Metabolic and cardiovascular correlates of trait expressed affection. *Communication Quarterly*, *55*(1), 79–94. doi:10.1080/01463370600998715

Floyd, K., Mikkelson, A. C., Tafoya, M. A., Farinelli, L., La Valley, A. G., Judd, J., . . . Wilson, J. (2007). Human affection exchange: XIII. Affectionate communication accelerates neuroendocrine stress recovery. *Health Communication*, *22*(2), 123–132. doi:10.1080/10410230701454015

Floyd, K., & Morman, M. T. (1997). Affectionate communication in nonromantic relationships: Influences of communicator, relational, and contextual factors. *Western Journal of Communication*, *61*(3), 279–298. doi:10.1080/10570319709374578

Floyd, K., & Morman, M. T. (1998). The measurement of affectionate communication. *Communication Quarterly*, *46*(2), 144–162. doi:10.1080/01463379809370092

Floyd, K., & Morman, M. T. (2020). The lonely states of America: Prevalence and demographic risk factors for affection deprivation among U.S. adults. *Western Journal of Communication*. Advance online publication.

Floyd, K., Ray, C. D., van Raalte, L. J., Stein, J. B., & Generous, M. A. (2018). Interpersonal touch buffers pain sensitivity in romantic relationships but heightens sensitivity between

strangers and friends. *Research in Psychology and Behavioral Sciences*, 6(1), 27–34. doi:10.12691/rpbs-6-1-4

Floyd, K., & Riforgiate, S. (2008). Affectionate communication received from spouses predicts stress hormone levels in healthy adults. *Communication Monographs*, 74(4), 351–368. doi:10.1080/03637750802512371

Floyd, K., York, C., & Ray, C. D. (2020). Heritability of affectionate communication: A twins study. *Communication Monographs*, 87(4), 405–424. doi:10.1080/03637751.2020.1760327

Graham, J. M. (2006). Congeneric and (essentially) tau-equivalent estimates of score reliability: What they are and how to use them. *Educational and Psychological Measurement*, 66(6), 930–944. doi:10.1177/0013164406288165

Harrison-Speake, K., & Willis, F. N. (1995). Ratings of the appropriateness of touch among family members. *Journal of Nonverbal Behavior*, 19(2), 85–100. doi:10.1007/BF02173168

Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. But …. *Communication Methods and Measures*, 14(1), 1–24. doi:10.1080/19312458.2020.1718629

Hays, R. D., Sherbourne, C. D., & Mazel, R. (1995). *User's manual for the medical outcomes study (MOS) core measures of health-related quality of life.* Santa Monica, CA: RAND Corporation.

Hesse, C., Floyd, K., Rains, S. R., Mikkelson, A. C., Pauley, P. M., Woo, N. T., . . . Duncan, K. L. (2020). Affectionate communication and health: A meta-analysis. *Communication Monographs*. Advance online publication. doi: 10.1080/03637751.2020.1805480.

Hesse, C., & Mikkelson, A. C. (2017). Affection deprivation in romantic relationships. *Communication Quarterly*, 65(1), 20–38. doi:10.1080/01463373.2016.1176942

Hofstede, G., & Hofstede, G. J. (2010). *Cultures and organizations: Software of the mind* (3rd ed.). New York, NY: McGraw-Hill.

Huston, T. L., & Vangelisti, A. L. (1991). Socioemotional behavior and satisfaction in marital relationships: A longitudinal study. *Journal of Social and Personal Relationships*, 61(5), 721–733. doi:10.1037/0022-3514.61.5.721

Jankowiak, W. R., Volsche, S. L., & Garcia, J. R. (2015). Is the romantic-sexual kiss a near human universal? *American Anthropologist*, 117(3), 535–539. doi:10.1111/aman.12286

Lovaas, O. I., Schaeffer, B., & Simmons, J. Q. (1965). Building social behavior in autistic children by use of electric shock. *Journal of Experimental Research in Personality*, 1(2), 99–109.

Mansson, D. H. (2013). College students' mental health and their received affection from their grandparents. *Communication Research Reports*, 30(2), 157–168. doi:10.1080/08824096.2012.763028

Mansson, D. H., Marko, F., Bachratá, K., Danišková, Z., Gajdošíková Zeleiová, J., Janiš, V., & Sharov, A. S. (2016). Young adults' trait affection given and received as functions of Hofstede's dimensions of cultures and national origin. *Journal of Intercultural Communication Research*, 45(5), 404–418. doi:10.1080/17475759.2016.1213181

Mansson, D. H., & Myers, S. A. (2011). An initial examination of college students' expressions of affection through Facebook. *Southern Communication Journal*, 76(2), 155–168. doi:10.1080/10417940903317710

Mansson, D. H., & Sigurðardóttir, A. G. (2017). Trait affection given and received: A test of Hofstede's theoretical framework. *Journal of Intercultural Communication Research*, 46(2), 161–172. doi:10.1080/17475759.2015.1292994

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. doi:10.1037/h0054346

McCabe, M. P. (1987). Desired and experienced levels of premarital affection and sexual intercourse during dating. *Journal of Sex Research*, *23*(1), 23–33. doi:10.1080/00224498709551339

Morman, M. T., & Floyd, K. (1998). "I love you, man": Overt expressions of affection in male-male interaction. *Sex Roles*, *38*(9–10), 871–881. doi:10.1023/A:101885417249

Noller, P. (1978). Sex differences in the socialization of affectionate expression. *Developmental Psychology*, *14*(3), 317–319. doi:10.1037/0012-1649.14.3.317

Parks, M. R., & Floyd, K. (1996). Meanings for closeness and intimacy in friendship. *Journal of Social and Personal Relationships*, *13*(1), 85–107. doi:10.1177/0265407596131005

Pendell, S. D. (2003). Affection in interpersonal relationships: Not just "a fond or tender feeling". In W. B. Gudykunst(Ed.), *Communication yearbook* (Vol. 26, pp. 67–110). New York, NY: Routledge doi:10.1080/23808985.2002.11679011

Quan-Haase, A., & Young, A. L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society*, *30*(5), 350–361. doi:10.1177/0270467610380009

Rane, T. R., & Draper, T. W. (1995). Negative evaluations of men's nurturant touching of young children. *Psychological Reports*, *76*(3), 811–818. doi:10.2466/pr0.1995.76.3.811

Remland, M. S., & Jones, T. S. (1988). Cultural and sex differences in touch avoidance. *Perceptual and Motor Skills*, *67*(2), 544–546. doi:10.2466/pms.1988.67.2.544

Russell, D. W. (1996). UCLA loneliness scale (version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20–40. doi:10.1207/s15327752jpa6601_2

Salt, R. E. (1991). Affectionate touch between fathers and preadolescent sons. *Journal of Marriage and Family*, *53*(3), 545–554. doi:10.2307/352731

Schutz, W. C. (1958). *FIRO: A three-dimensional theory of interpersonal behavior*. New York, NY: Rinehart.

Subar, A. F., Freedman, L. S., Tooze, J. A., Kirkpatrick, S. I., Boushey, C., Neuhouser, M. L., . . . Krebs-Smith, S. M. (2015). Addressing current criticism regarding the value of self-report dietary data. *The Journal of Nutrition*, *145*(12), 2639–2645. doi:10.3945/jn.115.219634

Swain, S. (1989). Covert intimacy: Closeness in men's friendships. In B. Risman & P. Schwartz (Eds.), *Gender in intimate relationships: A microstructural approach* (pp. 71–86). Belmont, CA: Wadsworth.

Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: Tend-and-befriend, not fight-or-flight. *Psychological Review*, *107*(3), 411–429. doi:10.1037/0033-295X.107.3.411

Webster Marketon, J. I., & Glaser, R. (2008). Stress hormones and immune function. *Cellular Immunology*, *252*(1–2), 16–26. doi:10.1016/j.cellimm.2007.09.006

Wood, J. T., & Inman, C. C. (1993). In a different mode: Masculine styles of communicating closeness. *Journal of Applied Communication Research*, *21*(3), 279–295. doi:10.1080/00909889309365372

Wu, M. S., Zhou, C., Floyd, K., Dong, S., Wang, L., Liu, J., . . . Han, B. (2014, February). *Self and relational benefits of affectionate communication: Evidence from a "no-contact" culture* [Paper presentation]. Western States Communication Association annual convention, Anaheim, CA, USA.