

Two Decades of Affection Exchange Theory: A State-of-the-art Review

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ABSTRACT

Since its formal explication in 2001, affection exchange theory (AET) has been the principal theoretical force behind research on affectionate communication. After presenting a brief history of the theory, the present paper offers a state-of-the-art review of published and unpublished empirical work testing AET's claims. The review identified a total of 135 empirical projects conducted between 2001 and 2024 involving a combined total of 54,784 human participants. Each empirical paper had to use AET explicitly, involve human subjects, report original data analyses, and be written in English. Themes and characteristics of the empirical work are identified, including a focus on physical and mental health, the origins of affectionate communication, and relationship differences in affectionate behavior. The evidentiary basis for the theory is also adjudicated, and then a theoretical critique focused on strengths and shortcomings is offered.

Keywords: Affection Exchange Theory, Affectionate Communication, State-of-the-art Review, theoretical Critique.

INTRODUCTION

One finds mention of affection in virtually every typology of fundamental human needs (Desmet & Fokkinga, 2020; Maslow, 1970; Max-Neef, 1991; Schutz, 1958; Tay & Diener, 2011). For a species as inherently social as humans (Baumeister & Leary, 1995), it is therefore unsurprising that the communication of affection is instrumental to the initiation (Owen, 1987; Watkins et al., 2022), maintenance (Pauley, Hesse, & Mikkelsen, 2014), and quality (Huston et al., 2001) of close relationships. Multiple studies also identify the mental and physical health associated with giving and receiving affectionate expressions, including supporting the immune system and helping the body manage stress (for a recent meta-analysis, see Hesse, Floyd et al., 2021).

Over the last two decades, the most frequently used theory for investigating affectionate communication has been Floyd's (2006a, 2019) affection exchange theory (Floyd, Debrot et al., 2023). First articulated in 2001, AET offers a theoretical basis for understanding why humans communicate affection in the first place, and with what effects. Grounded in the principles of evolutionary psychology, AET has been generative empirically, supporting more than 130 individual studies.

This state-of-the-art review describes the history and structure of AET, explains how the theory has been empirically tested, and adjudicates the evidentiary basis of its claims, before considering the theory's strengths and limitations. As Barry, Merkebu, and Varpio (2002) explained, a state-of-the-art review articulates: "This is where we are now. This is how we got here. This is where we should go next" with respect to a phenomenon (p. 659). The principles of the theory are articulated in other venues, including Floyd's (2019) *Affectionate Communication in Close Relationships* and Hesse, Floyd et al.'s (2021) meta-analysis of the literature on

affectionate behavior and health. However, no source has summarized all the available empirical evidence for the theory's claims or analyzed where (and by whom) the research is being produced. The present review also considers AET's limitations and shortcomings in greater detail than previous papers.

HISTORY OF AFFECTION EXCHANGE THEORY

AET was created to meet the need for a systematic theory about affectionate communication. This section discusses previous theoretical statements regarding affectionate behavior, describes how AET was formulated and introduced, and offers a brief overview of AET's content and structure.

Previous Theoretical Work on Affectionate Communication

Perhaps the only formal theory of affectionate communication to precede AET was Prescott's (1976, 1979) somatosensory affectional deprivation (SAD) theory. As its name implies, SAD theory took a deficit approach to explaining affectionate behavior, contending that insufficient stimulation of an infant's somesthetic system inhibited physical and psychosocial development. Working from that premise, Prescott argued that the sensory modalities of touch, smell, and movement mediate experiences of somatosensory pleasure in infants' initial caregiving relationships and that such experiences are required for the development of a primary affectional bond. Conversely, SAD theory claimed, when infants are deprived of sensory inputs, they have a harder time developing a primary affectional bond. This later creates difficulties in forging secondary bonds with friends and primary bonds with their own children.

In support of SAD theory, the importance of sensory stimulation—particularly tactile stimulation—for infant development is well documented (e.g., Barnett, 2005). Nonetheless, Prescott's theory is fundamentally a claim about physical stimulation supporting the development of an affectional bond. SAD theory does not assume that emotional affection, per se, is either necessary or sufficient for development, but instead emerges as a relational outcome of attention to touch, smell, and motion. Floyd consequently realized that SAD theory lacked the specificity to account for the myriad questions surrounding affectionate communication—those behaviors intentionally used to encode feelings of love and fondness—in a range of human relationships.

The Emergence of AET

Floyd proposed AET to expand the explanatory power of SAD theory and to remedy the limitations of other theories used to frame affectionate communication research, including attribution theory (Floyd, 2000), politeness theory (Erbert & Floyd, 2004), expectancy violations theory (Floyd, 1997; Floyd & Voloudakis, 1999), and interaction adaptation theory (Floyd & Burgoon, 1999).

Theories such as attribution theory, politeness theory, expectancy violations theory, and interaction adaptation theory have been useful for exploring how affectionate communication could function as, for instance, a violation of expectations or a face-threatening act. However, Floyd opined that such theories would ultimately prove insufficient for the systematic exploration of affectionate communication, for two reasons. First, and most notably, none of those theories was designed to explain affectionate behavior, so applications of these theories for that purpose were already straining the theories' boundary conditions, a situation that Floyd suggested would be unsustainable in the long run. Second, Floyd saw the social learning orientation underlying these theories as a limitation that would ultimately constrain in-depth understanding of affectionate behavior. That was because Floyd shared Prescott's view that the tendency to behave affectionately has adaptive evolutionary roots, and that although environmental forces clearly shape the expression of affection, they do not do so exclusively. Floyd's belief, clearly articulated in AET, is that humans are born with both the need and the capacity for sharing affection because doing so has been adaptive for viability and fertility over the course of human evolution. Theories that presuppose behavior is shaped principally by modeling, reinforcement, and punishment were therefore ill-suited for the task of understanding not just how people communicate affection, but why, according to Floyd's assessment.

The initial proposal of AET's principles appeared in a 2001 conference paper presented to the Western States Communication Association (Floyd, 2001a), the same year the first empirical test was published (Floyd, 2001b). A rudimentary explication of the theory's postulates appeared in Floyd and Morman (2003), and the theory was later fully formalized in propositional form in two books (Floyd, 2006a, 2019).

Content of AET: A Brief Overview

The function of AET is to explain why humans communicate affection to one another, and with what effects. Floyd (2006a) framed AET as neo-Darwinian. This means it assumes—consistent with Darwin's (1859) theory of

evolution by means of natural selection—that viability and fertility are superordinate human motivations. This axiom undergirds AET's fundamental claim that the propensity to exchange affectionate communication evolved and persists in the human species due to its contributions to both motivations.

AET comprises five postulates, the first of which is that *the need and capacity for affection are inborn*¹. This claim refers to the emotional experience of affection rather than to the behaviors through which it is expressed, and it positions the need and the ability to feel affection among humans' innate experiences (Miller & Rodgers, 2001). The second postulate claims that affectionate feelings and affectionate expressions are distinct experiences that often, but need not, covary. With this claim, AET differentiates the emotional and behavioral components of affection, allowing that communicators can both feel affection without expressing it and express affection without feeling it.

The central postulate in AET is that affectionate communication is adaptive with respect to human viability and fertility. The theory claims that the exchange of affection in human relationships is evolutionarily adaptive in at least three ways. First, it supports viability—the motivation to survive—by promoting the establishment and maintenance of significant pair bonds that provide vital survival resources, including companionship, protection, material goods, and assistance in times of need. Second, it supports fertility—the motivation to procreate—by representing the self as a viable romantic partner and a fit potential parent, both of which are consequential when the goal is to replicate one's genes. Consistent with Trivers's (1972) theory of differential parental investment, AET claims that the link between affectionate communication and reproductive opportunity is stronger for women than for men (Floyd, 2019). Third, AET argues that feeling, expressing, and receiving affection all covary with immunocompetence and with physiological pathways for stress and reward. This frequently tested claim provides that experiencing and exchanging affection imparts sensations of physical reward and contributes to viability by supporting immunocompetence and modulating the body's stress response.

Although AET positions affection as evolutionarily adaptive, it also recognizes individual variation via the postulate that humans vary in their optimal tolerances for affection and affectionate behavior. This claim provides not only that some people are more affectionate than others but also that affectionate communication is more beneficial to some individuals than to others. According to this postulate, communicators' optimal tolerances dictate the minimum amount of affection they need and a maximum amount they desire, and research shows that receiving either too little (Floyd, 2016) or too much (van Raalte & Floyd, 2021a) affection is aversive. The final postulate explains that conveying or receiving affectionate behaviors that violate one's range of optimal tolerance initiates noticeable sympathetic nervous system arousal and further initiates a cognitive appraisal of the same. For instance, when individuals receive affectionate expressions that they do not welcome, they are motivated to determine the meaning and significance of such expressions, given that they may signal a desire for more intimacy, closeness, and/or sexual involvement than they desire.

REVIEW OF AET RESEARCH

This paper presents the first known state-of-the-art review of all empirical research grounded in AET. As such, this exploration is driven by two overarching questions, the first adapted from a similar review by Kuang and Babrow (2021):

RQ1: How has AET been applied since its introduction in 2001?

RQ2: What is the status of AET's evidentiary basis?

Method

A literature search was conducted using multiple search strategies. First, the online databases Web of Science, PsycInfo, Medline, and Google Scholar were searched using the key terms "affectionate communication" and "affection exchange theory," and also using the title of Floyd's (2006a) original publication of the theory. Second, the online register Proquest was searched with the same key terms to identify dissertations and theses. Third, a frequently updated online bibliography of affectionate communication research was searched for relevant articles.² Fourth, programs of recent communication conferences were searched online to identify relevant convention papers. Finally, prolific AET scholars were contacted directly to nominate any published and/or unpublished work not already accounted for by the previous search methods. A PRISMA flow diagram (Page et al., 2021) appears in [Figure 1](#).

¹ Italicized postulates in this section are reproduced verbatim from Floyd (2006b, pp. 29–34).

² <https://static1.squarespace.com/static/5f04a38ef1e1ce46e9cb9de3/t/65d68369e89abf7b010196cb/1708557161757/affectionate-communication-bibliography-02-2024.pdf>

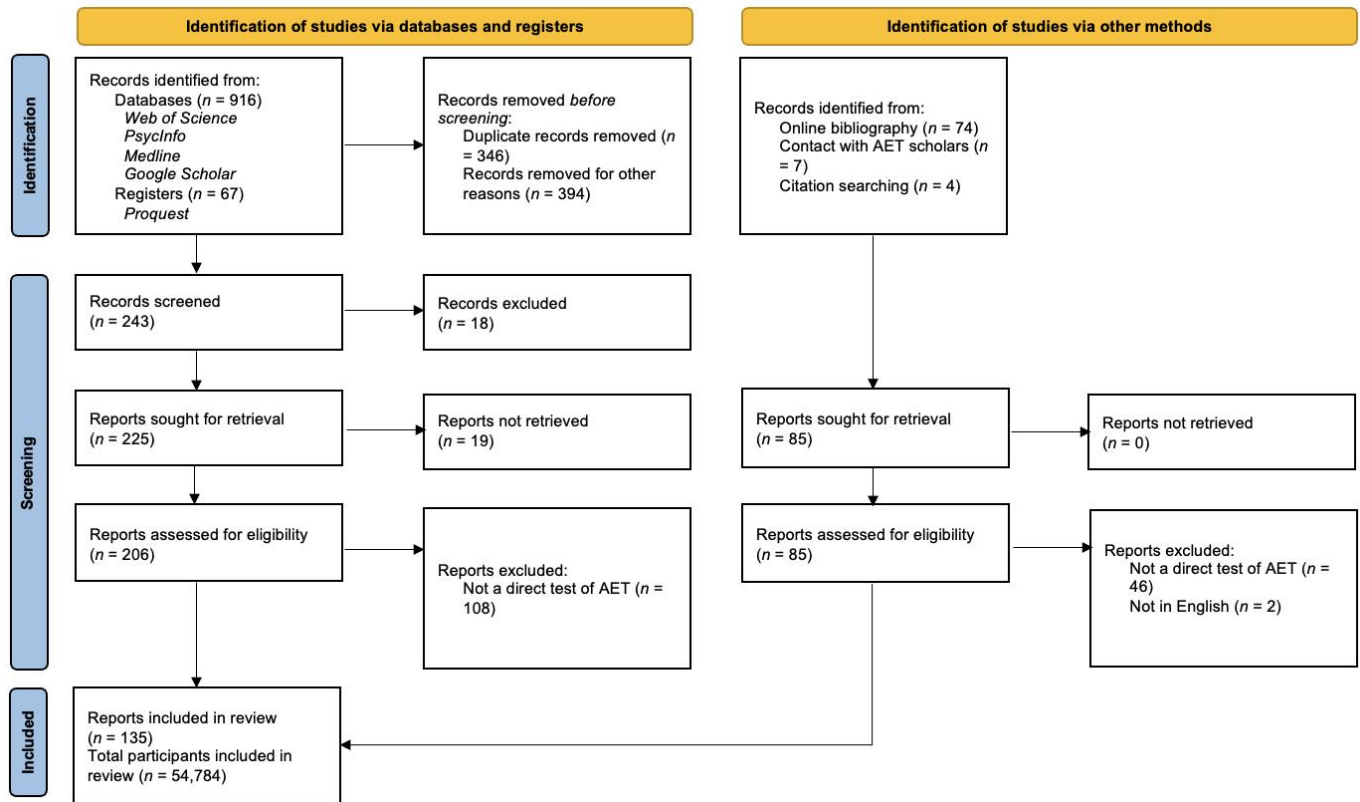


Figure 1. PRISMA Flow Diagram for State-of-the-art Review

When selecting papers for inclusion, the following criteria and decision rules were enforced:

1. The paper had to be written in English.
2. The research had to be grounded in AET. Research about affectionate communication, even though topically relevant, was excluded if it did not make explicit use of AET.
3. The paper had to report original data relevant to the application of AET to questions of affectionate communication. Secondary data analyses were accepted but meta-analyses, literature reviews, book reviews, commentaries, and other publications not contributing to original empirical tests of AET were excluded.
4. Unpublished reports, such as dissertations, theses, and conference papers, were included only if they had not subsequently been published. When they had been published, the published forms were used instead to avoid double counting the same study.
5. Multiple reports that made use of the same data set were included only if they tested different hypotheses or questions using those data. Data sets used more than once in the review were counted only once when compiling the aggregate N.
6. The unit of analysis in the review is the report. When a document (journal article, conference paper) reports two or more empirical studies, each study was treated separately.
7. March 1, 2024, was the cut-off date for inclusion, so papers published or presented after this point are not included in the review.

From each study, the author extracted the following details:

1. Authors and date of publication or presentation
2. Journal, conference, or venue of publication or presentation
3. Hypotheses and/or research questions
4. N and whether sample included participants of one gender or more than one gender
5. Study design (questionnaire, experiment, etc.)

Table 1 articulates all the hypotheses and research questions tested in each study and comments on each

study's implications for AET. Details of all the papers identified in the review appear in Supplemental **Table 1**³.

Table 1. Summary of Research Questions, Hypotheses, Key Findings, and Theoretical Contributions

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
1 Aloia (2023)	<ol style="list-style-type: none"> "Interpersonal trust mediates the association between dispositional forgiveness and cognitive and emotional well-being." "Affectionate communication mediates the association between dispositional forgiveness and relationship satisfaction." (p. 381) 	Affectionate communication mediated the relationship between forgiveness of others and relationship satisfaction.	AET provides that affectionate communication contributes to the satisfaction/stability of close relationships; these findings illustrate how that association interacts with forgiveness.
2 Austin (2021)	<ol style="list-style-type: none"> "Greater affectionate touch in close relationships will be associated with more positive health behaviors, greater use of specific approach coping behaviors, and decreased use of specific avoidant coping behaviors." "Self-efficacy will mediate the association between affectionate touch and health behavior and coping behavior." "Motivations for providing affectionate touch will moderate the association between affectionate touch and health behavior and coping behavior." "Perceived responsiveness will moderate the association between affectionate touch and health behavior and coping behavior." "The type of relationship between close others will moderate the association between affectionate touch and health behavior and coping behavior." "Affectionate touch will moderate the association between perceived stress and health behavior and coping behavior." (pp. 22–23) 	In romantic relationships, affectionate touch predicted greater support-seeking behavior, an effect that was moderated by responsiveness. Daily affectionate touch was associated with more frequent support-seeking behavior. Affectionate touch did not appear to buffer the effect of stress on health and coping behaviors.	A central claim in AET is that affectionate communication covaries with wellness, an effect illustrated by the association between daily affectionate touch and support-seeking behavior.
3 Bennett (2019)	<ol style="list-style-type: none"> "Trait affectionate communication will be positively associated with communication during sexual activity." (p. 27) 	Trait affectionate communication predicted more talk during sexual activity but did not predict self- or partner-focused communication arousal.	AET does not directly predict an association between trait affectionate communication and talk during sexual activity, but to the extent that talk during sexual activity contributes to relational stability, this illustrates AET's claim that affection contributes to stronger relationships.

³ The supplemental Table S1 can be downloaded at https://osf.io/g26t7/?view_only=72828f10e74f4603987358d6c7f2251f

⁴ Only those hypotheses or research questions from each study that were directly relevant to affectionate communication are included in the table.

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
4 Bennett & Denes (2019)	<p>1. "The more individuals report enacting DAMs [deceptive affectionate messages] during sexual activity, the lower their reported levels of sexual satisfaction."</p> <p>2. "The more individuals report enacting DAMs during sexual activity, the lower their reported levels of relationship satisfaction."</p> <p>3. "Sexual satisfaction and post-sex affectionate behavior will sequentially mediate the relationship between DAMs during sexual activity and relationship satisfaction, such that the more individuals enact DAMs during sexual activity, the lower their levels of sexual satisfaction, which will in turn predict less post-sex affectionate behavior and subsequently lower levels of relationship satisfaction." (pp. 144–146)</p>	<p>Use of DAMs during sexual activity was associated with lower sexual satisfaction and lower relationship satisfaction. Sexual satisfaction and post-sex affectionate behavior sequentially mediated the relationship between use of DAMs and relationship satisfaction.</p>	<p>AET provides that individuals can communicate affection in deceptive ways but does not directly indicate how such a practice is associated with satisfaction; these findings add clarity on that point.</p>
5 Bennett, LoPresti et al. (2019a)	<p>1. "Trait affectionate communication and post-sex affectionate communication behavior will sequentially mediate the relationship between attachment anxiety and sexual satisfaction, such that the higher an individual's attachment anxiety, the lower their levels of trait affectionate communication, which in turn will predict less post-sex affectionate communication and subsequently lower levels of sexual satisfaction."</p> <p>2. "Trait affectionate communication and post-sex affectionate communication behavior will sequentially mediate the relationship between attachment anxiety and sexual satisfaction, such that the higher an individual's attachment avoidance, the lower their levels of trait affectionate communication, which in turn will predict less post-sex affectionate communication and subsequently lower levels of sexual satisfaction." (p. 3)</p>	<p>Attachment anxiety was associated with decreased sexual satisfaction via decreased post-sex affectionate communication. Attachment avoidance was associated with decreased sexual satisfaction via decreased post-sex affectionate communication.</p>	<p>Post-sex affectionate communication is associated with sexual satisfaction, which can contribute to reproductive success, as AET claims.</p>
6 Bennett, LoPresti et al. (2019b)	<p>1. "Trait affection will have a positive influence on an individual's relationship satisfaction."</p> <p>2. "Trait affection will be positively associated with sexual desire for one's partner."</p> <p>3. "Trait affection will be negatively associated with pornography consumption." (pp. 650–652)</p>	<p>Trait affection was not associated with greater relationship satisfaction. Those with higher levels of trait affection reported higher levels of sexual desire for their partners. Trait affection was not significantly associated with pornography consumption.</p>	<p>Trait-levels of affectionate communication are associated with greater sexual desire for a romantic partner, which can contribute to reproductive success, yet they are not associated with the satisfaction level of those relationships.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
7 Bernhold (2020)	<p>1. "Grandchildren's perceptions of their grandparents' affectionate communication are positively associated with grandchildren's SFI [shared family identity] with grandparents."</p> <p>2. Grandchildren's perceptions of their grandparents' affectionate communication are indirectly associated with less loneliness, fewer depressive symptoms, and less stress, via grandchildren's heightened SFI with grandparents."</p> <p>3. Grandchildren's FTP [future time perspective] of their grandparents' futures will moderate the indirect associations in H2. The indirect associations will be stronger for grandchildren who perceive their grandparents' futures as expansive, but weaker for grandchildren who perceive their grandparents' futures as restricted." (p. 824)</p>	<p>Affectionate communication was positively associated with shared family identity, which was negatively related to loneliness when grandchildren perceived their grandparents' futures as expansive. When grandchildren perceived their grandparents' futures as restrictive, affectionate communication was positively associated with shared family identity, which was positively associated with loneliness.</p>	<p>When grandchildren perceive their grandparents' future time perspective as expansive, affectionate communication is indirectly associated with lower loneliness, which contributes to belongingness needs.</p>
8 Bernhold (2023)	<p>1. "Parents' perceptions of the affectionate communication they receive from their children will be negatively associated with (a) parents' exceeding the speed limit when driving, (b) children's exceeding the speed limit when driving, (c) parents' driving after consuming alcohol, and (d) children's driving after consuming alcohol."</p> <p>2. "Children's perceptions of the affectionate communication they receive from their parents will be negatively associated with (a) parents' exceeding the speed limit when driving, (b) children's exceeding the speed limit when driving, (c) parents' driving after consuming alcohol, and (d) children's driving after consuming alcohol." (pp. 300–301)</p>	<p>Parents' verbal affection received from children was negatively associated with children's tendency to speed, and their support affection received from children was negatively associated with their tendency to drive after drinking. Children's verbal, nonverbal, and supportive affection were inversely related to parents' likelihood of driving after drinking.</p>	<p>Speeding and driving impaired both represent threats to viability, and some forms of affectionate communication are associated with lower tendencies to take these risks, supporting AET's claimed association between affectionate communication and survival.</p>
9 Bernhold & Giles (2019)	<p>1. "American grandchildren will report receiving the most affection from maternal grandmothers, followed by maternal grandfathers, paternal grandmothers, and paternal grandfathers (in that order)."</p> <p>2. "Type of grandparent will moderate associations between grandchildren's perceptions of receiving affection from grandparents and grandchildren's relational closeness with grandparents." (pp. 518–520)</p>	<p>Some forms of affectionate communication were higher for paternal grandfathers than for maternal grandmothers. Grandparent type moderated associations between affection and closeness for love and esteem and celebratory affection but not for other forms.</p>	<p>To the extent that affectionate communication contributes to reproductive success, as AET provides, it is logical to expect affectionate communication to vary as a function of parental certainty; the finding that some forms of affection were higher for paternal grandfathers than maternal grandmothers is contrary to this prediction.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
10 Brantley-Hill & Brinthaup (2014)	<p>1. "Whereas people with unfavorable attitudes [about homosexuality] will see the expression of affection toward a same-sex target as less acceptable than those with favorable attitudes, there should be no difference between those with unfavorable and favorable attitudes in the perceived appropriateness of expressing affection toward a member of the other sex."</p> <p>2. "High scores on anti-gay/-lesbian attitudes will be associated with lower feelings of appropriateness in the expression of affection toward all targets (same-sex and other-sex) than will low scores on anti-gay/-lesbian attitudes."</p> <p>3. "Compared to those with favorable attitudes, those with unfavorable attitudes toward gay men and lesbian women might feel that it is especially appropriate to express affection toward other-sex targets."</p> <p>4. "Whereas those with unfavorable attitudes should be generally hesitant about expressing affection toward same-sex targets regardless of the circumstances, they will not show such inhibition when it comes to other-sex targets." (pp. 275–276)</p>	<p>Those with more negative attitudes toward homosexuality showed lower same-sex affection scores than those with less negative attitudes. There was no effect of attitudes on the perception of appropriateness of affection in same- and other-sex interaction. However, negative attitudes toward homosexuality predicted more negative assessments of the appropriateness of affection in general.</p>	<p>AET explains that affectionate behavior contributes to reproductive success, which cannot be achieved through direct reproduction in same-sex relationships; these findings illustrate how affection may not garner as much social approval in such relationships as in those with direct reproductive potential.</p>
11 Burke, van Raalte, & DeGroot (2023)	<p>1. "Affection moderates the inverse relationship between supportive coparenting and (a) stress and (b) depression." (p. 32)</p>	<p>Greater affection was associated with greater stress at both high and low levels of supportive coparenting. However, at high levels of supportive coparenting, greater affection was associated with lower depression.</p>	<p>AET claims that affectionate communication can be stress alleviating or stress inducing, depending on an individual's range of tolerance; these findings illustrate one instance in which affection correlates with higher stress.</p>
12 Butler & van Raalte (2019)	<p>1. "Affectionate communication is positively associated with relational satisfaction."</p> <p>2. "Do U.S. American and Chinese individuals differ on affectionate communication?" (pp. 4–)</p>	<p>Affectionate communication was positively correlated with relational satisfaction. U.S. American and Chinese adults differed in their frequencies of verbal and supportive affection but not nonverbal affection.</p>	<p>AET claims that affectionate communication contributes to relationship success, which the current correlation supports. The theory does not speak specifically to cultural factors in affectionate communication.</p>
13 Carton & Horan (2014)	<p>1. "What feelings do communicators experience when they choose not to express affection?"</p> <p>2. "What, if anything, do</p>	<p>When communicators withheld affection, the three most common feelings were liking, a</p>	<p>The theory provides that individuals can feel affection without expressing it, and these</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
14	Caton & Horan (2019)	<p>participants communicate in lieu of affection?"</p> <p>3. "Why do communicators withhold affection?" (pp. 224–225)</p> <p>1. "DAMs [deceptive affectionate messages] will be positively related to general mate retention behaviors."</p> <p>2. "Perceived risk of partner infidelity will mediate the positive relation between DAMs and general mate retention behaviors (such that DAMs will be positively related to perceived infidelity which, in turn, will be positively related to general mate retention)."</p> <p>3. "DAMs will be positively related to cost-inflicting mate retention behaviors."</p> <p>4. "Perceived risk of partner infidelity will mediate the positive correlation between DAMs and cost-inflicting mate retention behaviors (such that DAMs will be positively related to perceived infidelity which, in turn, will be positively related to cost-inflicting mate retention)."</p> <p>5. "DAMs will be related to benefit-provisioning mate retention behaviors." (pp. 4–5)</p>	<p>desire for affection, and irritation/anger. In lieu of communicating affection, the three most common behaviors were moderating affection, nonchalance, and no new action. The three most common reasons for withholding affection are a concern for the perception of others, a perception that the circumstances are inappropriate, and the presence of negative emotions.</p> <p>The use of deceptive affectionate messages (DAMs) was related to general mate retention behaviors, and perceived risk of partner infidelity mediated that association. The use of DAMs was related to conflict-inducing mate retention behaviors, and perceived risk of partner infidelity mediated that association. The use of DAMs was related to benefit-provisioning mate retention behaviors.</p>	<p>findings add clarity as to when and how this occurs.</p> <p>AET is clear that individuals can communicate affection deceptively but does not specify whether such a practice is generally positive or negative for relationships. These findings offer clarity as to how the use of DAMs is associated with risks and benefits in the context of mate retention.</p>
15	Caton & Horan (2023)	<p>1. "There will be a significant indirect effect between perceived partner commitment on DAMs [deceptive affectionate messages] via perceived partner defection, such that: (1) low perceived partner commitment leads to (2) greater perceptions of partner defection, which motivates (3) greater expression of DAMs."</p> <p>2. "There will be a significant indirect effect between perceived partner satisfaction on DAMs via perceived partner defection, such that: (1) low perceived partner satisfaction triggers (2) perceptions of partner defection to motivate (3) greater expression of DAMs."</p> <p>3. "Perceived partner mate</p>	<p>All predicted effects were significant.</p>	<p>Sharing deceptive affectionate messages may function as a relationship maintenance strategy, via which affectionate communication contributes to the maintenance of significant pair bonds.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
16 Cikara (2019)	<p>value will moderate the effect of perceived partner defection on DAMs, such that those who perceive their partner to be of relatively higher (vs. lower) mate value will more frequently express DAMs with the increasing perceived threat of partner defection."</p> <p>4. "Perceived partner defection would moderate the relation between perceived partner mate value and DAMs, such that those high in perceived partner defection would express more DAMs as partner mate value increased and that those low in perceived partner defection would express less DAMs as partner mate value increased."</p> <p>5. "Perceived-partner mate value will moderate the indirect effect of perceived partner commitment on DAMs via perceived partner defection, in that the less committed one perceives their partner to be in their relationship, the greater their perceived threat of partner defection and, in turn, the greater the use of DAMs—and that this effect would be stronger for those who perceive their partner to be of high (vs. low) mate value."</p> <p>6. "Perceived-partner mate value will moderate the indirect effect of perceived partner satisfaction on DAMs via perceived partner defection, in that the less satisfied one perceives their partner to be in their relationship, the greater their perceived threat of partner defection and, in turn, the greater the use of DAMs—and that this effect would be stronger for those who perceive their partner to be of high (vs. low) mate value." (pp. 2516–2519)</p> <p>1. "To what extent will cuddling mediate the relationship between attachment and relationship satisfaction?"</p> <p>2. "To what extent will cuddling mediate the relationship between attachment and sleep quality?"</p> <p>3. "To what extent will affectionate communication mediate the relationship between attachment and relationship satisfaction?"</p> <p>4. "To what extent will affectionate communication mediate the relationship between attachment and sleep quality?"</p> <p>5. "Affectionate communication will partially mediate the relationship</p>	<p>Affectionate communication did not partially mediate the effect of anxious attachment on relationship satisfaction but did partially mediate the effect of avoidant attachment on relationship satisfaction. Affectionate communication did not partially mediate the effect of anxious attachment on sleep disturbance but did</p>	<p>Affectionate communication had some mediating effects on attachment (only for avoidant attachment) on the quality of pair bonds and on sleep quality, an important physical health marker.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
17	Coduto & Eveland (2022)	<p>between anxious attachment and relationship satisfaction for women and men and for their partners."</p> <p>6. "Affectionate communication will partially mediate the relationship between anxious attachment and sleep disturbance for women and men and for their partners."</p> <p>7. "Affectionate communication will partially mediate the relationship between avoidant attachment and relationship satisfaction for women and men and for their partners."</p> <p>8. "Affectionate communication will partially mediate the relationship between avoidant attachment and sleep disturbance for women and men and for their partners." (pp. 12–13; 59)</p> <p>1. "Higher marital quality will predict greater ease of listening in a conversation about #MeToo."</p> <p>2. "Greater disclosure in one's marriage will predict greater ease of listening in a conversation about #MeToo." (p. 1467)</p>	<p>partially mediate the effect of avoidant attachment on sleep disturbance.</p> <p>Marital quality and marital self-disclosure both predicted ease of listening.</p>	<p>Listening is conceptualized as an expression of affection, and listening is associated with the satisfactory nature of pair bonds.</p>
18	Darr (2013)	<p>1. "Giving and receiving affection will have a positive association with prosocial traits, such as altruism and empathy."</p> <p>2. "Affection will be positively related to positive emotions, specifically compassion and love." (p. 8)</p>	<p>Expressed and received affection are both directly related to compassion, altruism, empathy, and love.</p>	<p>Prosocial traits and positive emotion support the formation and maintenance of significant pair bonds, and affectionate communication is associated with these qualities.</p>
19	Denes (2012)	<p>1. "Individuals who engage in more positive relational disclosures after sexual activity with their partners will report more (a) trust, (b) relationship satisfaction, and (c) closeness."</p> <p>2. "Women who orgasm will engage in more positive relational disclosures after sexual activity than men who orgasm."</p> <p>3. "Women who orgasm during penile-vaginal intercourse will engage in more positive relational disclosures than (a) women who do not orgasm and (b) women who orgasm from other sexual stimulation."</p> <p>4. "Individuals in monogamous/committed relationships will engage in more positive relational disclosures after sexual activity than individuals in casual/open relationships."</p> <p>5. "Individuals in monogamous/committed relationships will experience (a) fewer feelings of regret and (b)</p>	<p>All predicted effects were significant except that women who orgasm during penile-vaginal intercourse did not engage in more positive relational disclosures than women who orgasm from other sexual stimulation.</p>	<p>Affectionate communication is instrumental in relational and reproductive success, according to AET, and these findings support that claim.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
20	Denes, Horan, and Bennett (2019)	<p>higher levels of relationship satisfaction following postsexual activity disclosures than individuals in open/casual relationships." (pp. 96–97)</p> <ol style="list-style-type: none"> <li data-bbox="413 528 863 678">1. "Individuals who pretend to orgasm will report less trust, closeness, and commitment with their partners than individuals who do not orgasm." <li data-bbox="413 680 863 831">2. "Individuals who orgasm will report more trust, closeness, and commitment with their partners than individuals who do not orgasm or pretend to orgasm." <li data-bbox="413 833 863 1223">3. "Trait affectionate communication will moderate the association between orgasm experience and a) trust, b) closeness, and c) commitment, such that pretending to orgasm will be associated with more positive relational quality indicators for individuals with higher levels of trait affectionate communication compared to those with lower levels of trait affectionate communication." (pp. 3, 5) 	<p>Those who pretended to orgasm did not report less trust, closeness, and commitment with their partners than those who did not orgasm. However, those who orgasmed reported more trust and closeness with their partners than those who did not orgasm or pretended to orgasm. For high-affection communicators, pretending to orgasm was associated with higher levels of trust, closeness, and commitment, but not experiencing orgasm and not pretending to orgasm were associated with lower levels. For low-affection communicators, it was associated with lower levels of trust, closeness, and commitment, but not experiencing orgasm and not pretending to orgasm were associated with higher levels.</p>	<p>Faking orgasm is conceptualized as a form of deceptive affection that is related to the quality of pair bonds.</p>
21	Duflos, Giraudeau, Bailly, N., and Mansson (2021)	<ol style="list-style-type: none"> <li data-bbox="413 1391 863 1570">1. "In line with Mansson's (2013d) work, a four-dimensional model of the French GRAS [grandchildren's received affection scale] will provide acceptable fit to the data." <li data-bbox="413 1572 863 1783">2. "The French GRAS will be correlated positively with shared family identity and perceptions of the grandparents as ideal, in line with previous studies and AET, establishing the construct validity of the scale." (pp. 64–65). 	<p>The four-dimensional GRAS model was a good fit to data. All four GRAS factors were correlated with shared family identity and perceptions of the grandparents as ideal.</p>	<p>AET provides that affectionate communication contributes to the success of close relationships, and these correlations illustrate that claim in the context of grandparental relationships.</p>
22	Duflos, Mansson, Cès, and Giraudeau (2024)	<ol style="list-style-type: none"> <li data-bbox="413 1785 863 1897">1. "Compared to emerging adults, adolescents will report greater emotional closeness and affection received from their grandparents." <li data-bbox="413 1899 863 2049">2. "Grandchildren's perceived GP-GC [grandparent-grandchild] personality trait discrepancies will be negatively related to grandchildren's received grandparental affection." <li data-bbox="413 2051 863 2078">3. "Affectionate communication 	<p>Adolescents did not report greater affection from grandparents than emerging adults did. GP-GC personality trait discrepancies were negatively related to most forms of grandparental affection. Affectionate</p>	<p>AET does not identify specific personality traits associated with affectionate communication but does provide that individuals vary in their tendencies and tolerances for affection, and it is logical to argue that</p>

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23	Farley, Hughes, and LaFayette, (2013)	<p>will mediate the relationships between personality traits, similarities, and emotional closeness with grandparents." (p. 6)</p> <p>1. "Participants would be able to identify whether callers were speaking with a romantic partner or a close, same-sex friend with greater than chance accuracy."</p> <p>2. "Vocal samples directed toward romantic partners would be perceived by independent raters as reflecting greater romantic interest than those directed toward friends."</p> <p>1. "There would be significant positive correlations between callers' self-reported love for their romantic partners and how positively romantic clips were rated (in terms of perceived romantic interest and positive qualities)." (p. 126)</p> <p>2. "Young adults' perceptions of their father's traditional masculinity (a) inversely predict their reports of their fathers' affection, whereas perceptions of father's nontraditional masculinity (b) positively predict their reports of father's affection."</p> <p>3. "Young adults' reports of their father's affection are positively associated with their feelings of (a) relational satisfaction and (b) closeness with their father."</p>	<p>communication mediated some of the relationships between personality traits similarities and emotional closeness.</p> <p>Raters discriminated between calls between romantic partners and same-sex friends. Paralinguistic cues, but not linguistic cues, were perceived as reflecting greater romantic interest in romantic partners than friends. Callers' self-reported love for romantic partners was positively associated with how positively the romantic voice clips were rated.</p>	<p>personality accounts for some of this variation, as present findings illustrate.</p> <p>AET has been used to predict that individuals alter vocal qualities when communicating affectionate intentions, insofar as affectionate communication relates to survival and procreation, and the present findings support this claim.</p>
24	Fellers (2020)	<p>2. "Young adults' perceptions of their father's traditional masculinity (a) inversely predict their reports of their fathers' affection, whereas perceptions of father's nontraditional masculinity (b) positively predict their reports of father's affection."</p> <p>3. "Young adults' reports of their father's affection are positively associated with their feelings of (a) relational satisfaction and (b) closeness with their father."</p> <p>4. "Young adults' reports of father's (a) affection and (b) confirmation function as inverse, parallel mediators of fathers' traditional masculinity and relational quality in father-child relationships (i.e., satisfaction and closeness)."</p> <p>5. "Young adults' reports of father's (a) affection and (b) confirmation function as positive, parallel mediators of fathers' nontraditional masculinity and relational quality in father-child relationships (i.e., satisfaction and closeness)." (pp. 11–15)</p>	<p>Paternal affection was inversely associated with traditional masculinity and was positively related to nontraditional masculinity, satisfaction, and closeness. Paternal affection and confirmation were inverse mediators of the association between relational quality and traditional masculinity and were positive mediators of the association between relational quality and nontraditional masculinity.</p>	<p>AET does not specify how gender role expectations will covary with affectionate communication but does claim that affectionate communication contributes to relationship success, as the present correlations with satisfaction and closeness illustrate.</p>
25	Floyd (2001b)	<p>3. "Heterosexual fathers report having received more affection from their own fathers than homosexual or bisexual fathers."</p> <p>4. "Do heterosexual fathers and homosexual/bisexual fathers differ from each other in the amount of affection they express to their sons?"</p> <p>5. "Men communicate affection to their sons more through the use of supportive activities than through direct verbal or nonverbal</p>	<p>Heterosexual fathers received more affection from their own fathers than did homosexual/bisexual fathers. Heterosexual and homosexual/bisexual fathers did not differ in the amount of affection expressed to their sons. Men communicated</p>	<p>AET's claim that affection contributes to reproductive success makes sexual orientation relevant, given a higher likelihood of direct reproduction by heterosexual than homosexual/bisexual individuals. These findings are directly in line with that claim.</p>

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26	Floyd (2002)	<p>expressions."</p> <p>6. "Men express more affection with their sons than their own fathers did with them." (pp. 42-43)</p> <p>1. "High affection communicators report (a) greater happiness, (b) higher self-esteem, (c) less depression, (d) less stress, and (e) greater overall mental health than do low affection communicators."</p> <p>2. "Compared to low affection communicators, high affection communicators report (a) less discomfort with closeness, (b) less fear of intimacy, and (c) less of a perception that relationships are of secondary importance."</p> <p>3. "Compared to low affection communicators, high affection communicators are (a) more likely to have a secure attachment style, (b) less likely to have a dismissive attachment style, and (c) less likely to have a fearful/avoidant attachment style."</p> <p>4. "How do high and low affection communicators differ, if at all, in their (a) level of preoccupation with relationships, and (b) tendency to have a preoccupied attachment style?"</p> <p>5. "High affection communicators are more feminine than low affection communicators."</p> <p>6. "How do high and low affection communicators differ, if at all, in their masculinity?"</p> <p>7. "High affection communicators (a) are more socially outgoing, and (b) receive more affection from others than do low affection communicators."</p> <p>8. "Compared to low affection communicators, high affection communicators (a) are more likely to be in romantic relationships, and (b) are more satisfied with their romantic relationships." (pp. 137-140)</p>	<p>affection to their sons more through the use of supportive activities than through direct verbal/nonverbal expressions. Men expressed more affection with their sons than their own fathers did with them, except for direct nonverbal affection.</p> <p>Compared to low affection communicators, high affection communicators are happier, more self-assured, more comfortable with closeness, less fearful of intimacy, less likely to see relationships as secondary, more likely to have a secure attachment style, less likely to have a fearful/avoidant attachment style, less likely to be depressed and stressed, in better mental health, more masculine and more feminine, more likely to engage in regular social activity, less likely to report social isolation, more likely to receive affection, more likely to be in a romantic relationship, and more relationally satisfied.</p>	<p>This was the first study to establish the social, relational, and health benefits associated with being highly affectionate that AET suggests.</p>
27	Floyd (2006b)	<p>1. "Controlling for trait affection received, how is trait affection given associated with basal levels of salivary free cortisol, if at all?"</p>	<p>With received affection controlled, expressed affection was positively associated with average cortisol and waking</p>	<p>Association with cortisol change demonstrates AET's prediction that expressed affection is associated with the</p>

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28	Floyd (2010)	<p>2. "Controlling for trait affection received, how is trait affection given associated with morning, noon, afternoon, and evening levels of salivary free cortisol, if at all?"</p> <p>3. "Controlling for trait affection received, trait affection given is directly correlated with morning-to-evening change in cortisol levels." (pp. 52–53)</p> <p>1. "Trait affectionate communication level is directly associated with the ratio of second to fourth digit (2D:4D)."</p> <p>2. "Trait affectionate communication level is inversely associated with second- and fourth-digit lengths, corrected for height."</p> <p>3. "Trait affectionate communication level is directly associated with the discrepancy between left and right 2D:4D." (p. 8)</p>	<p>cortisol, and with diurnal change in cortisol.</p> <p>Trait affection was unassociated with 2D:4D; associated with digit lengths except for R ring finger; and associated with left and right 2D:4D discrepancy.</p>	<p>body's regulatory pathways for stress.</p> <p>These findings suggest a weak association between trait affection and prenatal testosterone exposure, supporting AET's claim that roles such as pair bonding and parenting—which call for a lack of aggression—are associated with expressed affection.</p>
29	Floyd (2014)	<p>1. "Affection deprivation is (a) directly related to alexithymia, (b) inversely related to happiness, and (c) inversely related to general health."</p> <p>2. "Affection deprivation is (a) directly related to loneliness, (b) inversely related to social support, and (c) inversely related to relationship satisfaction."</p> <p>3. "Affection deprivation is directly related to (a) magnitude of depression, (b) magnitude of stress, (c) number of diagnosed anxiety/mood disorders, and (d) number of diagnosed personality disorders."</p> <p>4. "Affection deprivation is directly related to number of diagnosed secondary immune disorders."</p> <p>5. "How, if at all, is affection deprivation associated with attachment style?" (pp. 388–390)</p>	<p>Affection deprivation is positively related to alexithymia, loneliness, depression, stress, diagnosed mood/anxiety disorders and secondary immune disorders, fearful avoidant attachment, and preoccupied attachment. It is negatively related to happiness, general health, social support, relationship satisfaction, and secure attachment.</p>	<p>Working from AET's claim of a range of tolerance, these findings demonstrate the problematic associations of receiving too little affectionate communication.</p>
30	Floyd (2016)	<p>1. "Affection deprivation is directly associated with physical pain."</p> <p>2. "Affection deprivation is inversely associated with sleep quality." (pp. 5–6)</p>	<p>Affection deprivation is directly associated with physical pain and inversely associated with the quality of sleep.</p>	<p>These findings demonstrate AET's implication that the absence of affection is detrimental to wellness.</p>
31	Floyd (2023)	<p>1. "Kissing frequency is negatively associated with stress."</p> <p>2. "Stress is positively associated with triglycerides and LDL [low-density lipoproteins] and negatively associated with HDL [high-density lipoproteins]."</p> <p>3. "Stress mediates the effect of kissing frequency on triglycerides,</p>	<p>Kissing frequency was negatively associated with stress. Stress was positively associated with triglycerides but not LDL and was negatively associated with HDL. Stress mediated the effect of</p>	<p>This was the first direct demonstration of AET's claim that affection is associated with wellness via its effects on stress.</p>

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32	Floyd (2024a)	<p>HDL, and LDL." (p. 3)</p> <p>1. "Affectionate communication is inversely associated with (a) depressive symptoms and (b) stress." 2. "Affectionate communication moderates the positive association between adverse childhood experiences and (a) depressive symptoms and (b) stress, such that the positive association is attenuated when affectionate communication is higher." (p. 8)</p>	<p>kissing frequency on triglycerides and HDL. Affectionate communication was inversely related to depressive symptoms and stress, and positive associations between adverse childhood experiences, depressive symptoms, and stress were moderated by affectionate communication.</p>	<p>These findings demonstrate that affectionate communication acts as a stress buffer, protecting individuals against deleterious effects of stressors such as early childhood adversities.</p>
33	Floyd (2024b)	<p>1. "The frequency of received verbal affection is associated with (a) lower levels of stress, (b) lower levels of depressive affect, (c) higher levels of positive affect, (d) lower levels of anger, and (e) lower levels of anxiety." (p. 8)</p>	<p>All predictions were supported.</p>	<p>Focusing on received affection, these findings demonstrated AET's claim that affectionate communication is supportive of well-being.</p>
34	Floyd, Boren et al. (2009)	<p>1. "In healthy adults, increasing romantic kissing reduces total serum cholesterol." 2. "In healthy adults, increasing romantic kissing reduces perceived stress and susceptibility to depression." 3. "In healthy adults, increasing romantic kissing increases satisfaction with the romantic relationship." (p. 119)</p>	<p>Increasing the frequency of romantic kissing reduced total serum cholesterol and stress and increased relationship satisfaction but had no effect on depressive symptoms.</p>	<p>Increasing affectionate behavior in close relationships improves physical and mental stress outcomes and increases satisfaction with the relationship, as AET suggests.</p>
35	Floyd and Denes (2015)	<p>1. "Attachment security moderates the effect of genotype of rs53576 on affectionate communication, such that genotype is a stronger influence under conditions of weak attachment security than strong attachment security." 2. "Carriers of a GG allele on rs53576 are more affectionate than carriers with AA or AG alleles." (p. 277)</p>	<p>rs53576 genotype interacted with attachment security to influence affectionate communication, such that the genotype was more strongly related to affectionate communication under conditions of weak than strong attachment security. Genotype did not have a main effect on affectionate communication.</p>	<p>AET claims that the need and capacity for affection are inborn, suggesting a partially genetic basis for trait affection level, and this study identified a candidate gene in rs53576.</p>
36	Floyd, Duflos et al. (2024)	<p>1. "Affection deprivation is positively associated with non-zoonotic parasite prevalence." 2. "Affection deprivation is unassociated with zoonotic parasite prevalence." (pp. 9–10)</p>	<p>In a multi-national sample, affection deprivation was positively related to non-zoonotic parasite prevalence and unrelated to zoonotic parasite prevalence.</p>	<p>The lack of affection is associated with the risk of infection, in line with AET's claimed association between affection and wellness.</p>
37	Floyd, Erbert et al. (2005a)	<p>1. Have you ever expressed affection to someone when you didn't really feel it, but were instead using the affectionate expression for some other motive? 2. If so, what was your actual</p>	<p>Eighty-six percent of participants had engaged in deceptive affection, and multiple motives were reported.</p>	<p>These findings demonstrate AET's proposition that affectionate feelings and affectionate behaviors are isomorphic.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
38 Floyd, Hess et al. (2005b)	<p> motive?⁵</p> <p>1. "Expressed affectionate communication is (a) directly associated with individual-level well-being, including happiness, self-esteem, and general mental health; (b) inversely associated with individual-level problems such as stress, depression, and maladaptive relational attachment patterns; (c) predictive of long-term romantic relationships; and (d) directly related to relational satisfaction, for those in long-term romantic relationships."</p> <p>1. "The associations with expressed affection are maintained to a statistically significant degree when received affection is controlled for." (p. 288)</p>	<p>After controlling for received affection, expressed affection is associated with well-being and mental wellness, as well as with the presence and satisfaction level of romantic relationships.</p>	<p>As AET suggests, affectionate communication is associated with both individual and relational wellness.</p>
39 Floyd & Hesse (2017)	<p>2. "Items measuring affection deprivation and items measuring loneliness load onto substantially separate factors." (p. 451)</p>	<p>Across three studies, scale items for affection deprivation and loneliness loaded on different factors in exploratory factor analyses.</p>	<p>Affection is so fundamental a need that it is detrimental in ways that are distinct from other forms of disconnection, such as loneliness.</p>
40 Floyd, Hesse, Boren, and Veksler (2014a)	<p>1. "Affectionate communication predicts higher antibody titers to latent Epstein-Barr virus." (p. 5)</p>	<p>Antibodies to Epstein-Barr virus are positively associated with trait of affectionate communication.</p>	<p>Although affection often enhances immunocompetence, it can also suppress immunity due to its intimate nature.</p>
41 Floyd, Mikkelson et al. (2007b)	<p>1. "With the influence of trait received affection controlled for, trait expressed affection manifests an inverse linear relationship with resting systolic and diastolic blood pressures."</p> <p>2. "With the influence of trait received affection controlled for, trait expressed affection manifests an inverse linear relationship with resting heart rate."</p> <p>3. "Compared to men, women report higher levels of both trait expressed affection and trait received affection."</p> <p>4. "With the influence of trait received affection controlled for, trait expressed affection manifests an inverse linear relationship with HbA_{1c} [glycated hemoglobin]." (pp. 82–83, 87)</p>	<p>Net of the effects of received affection, expressed affection is inversely associated with resting blood pressure and HbA_{1c}.</p>	<p>These findings further illustrate the salutary health benefits associated with trait expressed affection.</p>
42 Floyd & Mikkelson (2004)	<p>1. "Both SD [standard hemispheric dominance] and AD [anomalous hemispheric dominance] individuals match increases in nonverbal affection."</p> <p>2. "SD individuals reciprocate increases in nonverbal affection more</p>	<p>Individuals largely matched both increases and decreases in nonverbal affection. SD individuals did not reciprocate increases in nonverbal affection</p>	<p>AET's claim that the need and capacity for affection are inborn suggests potential neural regulatory pathways for affectionate behavior. In</p>

⁵ Research questions paraphrased from Floyd (2019, p. 202)

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43	Floyd, Mikkelson et al. (2007a)	<p>than do AD individuals."</p> <p>3. "How do participants respond to decreases in nonverbal affection?"</p> <p>4. "In response to decreases in nonverbal affection, SD individuals are more likely to alter their behavior, by either increasing or decreasing their own nonverbal affection behavior, than are AD individuals."</p> <p>5. "How does sex moderate the effects of hemispheric dominance on one's response to changes in affectionate communication behavior, if at all?"</p> <p>6. "How does sex of a communication partner moderate the effects of hemispheric dominance on one's response to changes in affectionate communication behavior, if at all?" (pp. 10–12)</p>	<p>more than AD individuals, nor did they alter their behavior in response to decreased affection more than AD individuals.</p>	<p>this test, hemispheric dominance—as assessed by handedness—had little effect on how individuals responded to changes in affectionate behavior, suggested that hemispheric dominance is not a relevant neural characteristic (at least for this outcome).</p>
43	Floyd, Mikkelson et al. (2007a)	<p>1. "Affectionate writing reduces total cholesterol to a greater extent than writing about innocuous topics." (p. 123)</p>	<p>In two experiments, writing letters of affection reduced serum cholesterol levels.</p>	<p>These findings support AET's contention that expressing affection contributes to wellness.</p>
44	Floyd, Hesse et al. (2007c)	<p>1. "To the extent that affectionate communication in participants' most affectionate relationships reduces susceptibility to stress, this should manifest itself in lower resting HRs [heart rates]."</p> <p>2. "What effect, if any, [does] affectionate communication in the most affectionate relationship [have] with baseline cortisol level?"</p> <p>3. "Affectionate communication in the most affectionate relationship is inversely associated with the magnitude of (a) cortisol increase and (b) HR increase initiated by exposure to acute stressors." (p. 152)</p>	<p>The amount of affectionate communication in one's most affectionate relationship was inversely associated with resting HR. Verbal affection was directly associated with baseline cortisol. Cortisol reactivity to stressors was inversely associated with verbal and supportive affection; HR reactivity could not be tested.</p>	<p>These data illustrate AET's claim that affectionate communication covaries with regulatory physiological pathways for stress.</p>
45	Floyd, Mikkelson et al. (2007d)	<p>1. "Following exposure to an acute stressor, expressing affection to a loved one leads to more pronounced reductions in free cortisol, compared to thinking about a loved one or sitting quietly."</p> <p>2. "What effect, if any, does biological sex have on cortisol reactivity to expressing affection, thinking about a loved one, or sitting quietly following acute stress?" (p. 126)</p>	<p>After exposure to an acute stressor, expressing affection accelerated cortisol recovery, compared to thinking about a loved one or sitting quietly. Sex affected only cortisol reactivity to sitting quietly, wherein cortisol decreased for men but increased for women.</p>	<p>These findings further illustrate AET's claim that affectionate communication covaries with regulatory physiological pathways for stress.</p>
46	Floyd & Morman (2003)	<p>1. "Fathers communicate more affection to their biological sons than to their nonbiological sons."</p> <p>2. "Fathers communicate more affection to their sons than the sons communicate to the fathers." (pp. 603, 607)</p>	<p>Men expressed more affection to biological than nonbiological sons, and expressed more affection to sons than they received in return.</p>	<p>These findings are consistent with AET's claim that affectionate communication serves the superordinate goal of fertility.</p>

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47 Floyd & Morman (2001)	<ol style="list-style-type: none"> 1. "Men communicate more affection to biological sons than to step-sons." 2. "Men communicate more affection to adopted sons than to step-sons." 3. "Affectionate communication between fathers and sons is linearly related to their closeness, their satisfaction with their relationships, and their degree of positive involvement in each other's lives." (pp. 314–315) 	<p>Men were more affectionate to biological and adopted sons than to step-sons. Closeness, relational satisfaction, and positive involvement were all positively related to father-son affection.</p>	<p>Providing affection strengthens relationships, and this resource is more likely in biological relationships, where it serves the goal of fertility, as AET claims.</p>
48 Floyd & Morman (2022)	<ol style="list-style-type: none"> 1. "What is the general prevalence of affection deprivation among U.S. adults?" 2. "How, if at all, does affection deprivation vary geographically within the United States?" 3. "Which demographic characteristics, if any, are associated with a higher prevalence of affection deprivation?" 4. "Affection deprivation is linearly related to loneliness." 5. "Affection deprivation is linearly related to chronic pain." (pp. 5–6) 	<p>On a 9-point scale, adults scored an average of 4.87 (across two studies) on affection deprivation. There was no systematic geographic variation. Affection deprivation was inversely associated with age, higher for single than married adults, lower for heterosexual than bisexual adults, and positively related to loneliness and chronic pain.</p>	<p>AET provides that affection deprivation is aversive for well-being, and these findings illustrate that claim. They also indicate who, at least within the United States, is at elevated risk of affection deprivation.</p>
49 Floyd et al. (2021)	<ol style="list-style-type: none"> 6. "What percentage of adults communicate affection in a 24-hour period, and what differentiates those who have from those who have not?" 7. "How many affection expressions do adults make, on average, in a 24-hour period?" 8. "Women report enacting more expressions of affection than do men." 9. "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." 10. "Which behaviors do adults use to express affection?" 11. "To whom do adults express affection most often?" 12. "Via which communication modalities do adults express affection?" (pp. 6–8) 	<p>In a 24-hour period, 84% of participants had expressed affection to someone. Those who had were younger, more likely female, more likely married, more likely heterosexual or bisexual. Less likely Asian, and less likely Black. In 24 hours, people made an average of 5.71 affectionate expressions. Women reported more than men, and number of expressions was related to trait affection, pain, and loneliness, but not to affection deprivation. The most common behaviors were verbal expressions, hugging, and kissing. The most common targets were a spouse/romantic partner, child, and friend/neighbor, and the most common modalities were in person, via telephone, and via text or instant</p>	<p>Affectionate communication is a ubiquitous behavior that makes use of multiple behaviors, modalities, and targets, bolstering AET's claim of affection's centrality for social interaction.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
50	Floyd & Morr (2003)	<p>1. "Spouses communicate more affection to each other than do siblings, and siblings communicate more affection to each other than do siblings-in-law."</p> <p>2. "Levels of affectionate communication are significantly correlated between relationships within the sibling/marital/sibling-in-law triad."</p> <p>3. "Are levels of affectionate communication significantly correlated between pairs of relationships within the sibling/marital/sibling-in-law triad when the amount of affection in the third relationship is held constant?"</p> <p>4. "For spouses, siblings, and siblings-in-law, affectionate communication is linearly related with (a) relationship satisfaction and (b) relationship closeness." (p. 252)</p>	<p>messaging.</p> <p>Spouses were more affectionate than siblings, who were more affectionate than siblings-in-law.</p> <p>Affection levels in relationships were mostly correlated. Affection was related to closeness and satisfaction for all relationships.</p>	<p>Reproductive (marital) and genetic (sibling) relationships take precedence over non-reproductive, non-genetic relationships (siblings-in-law) in the distribution of affection, even after relationship closeness and satisfaction are controlled, in line with AET's contention that affection supports fertility motivations.</p>
51	Floyd, Pauley, and Hesse (2010)	<p>1. "Trait affectionate communication directly predicts oxytocinergic reactivity to stressors."</p> <p>2. "State affectionate communication directly predicts oxytocinergic reactivity to stressors."</p> <p>3. "Is the relationship of oxytocinergic reactivity to stressors and trait or state affection moderated by sex?" (p. 624)</p>	<p>Both state and trait affectionate communication were significantly associated with oxytocinergic increases in response to stressors, and neither effect was moderated by stress.</p>	<p>These findings demonstrate AET's contention that affection engages regulatory physiological pathways for stress and simultaneously contradicts tend-and-befriend theory's claim that the oxytocinergic stress response favors women.</p>
52	Floyd, Pauley et al.(2018)	<p>1. "Received support is positively associated with immunocompetence."</p> <p>2. "The expression of supportive affection is positively associated with immunocompetence."</p> <p>3. "Controlling for the benefits of received support, the expression of supportive affection is positively associated with immunocompetence." (pp. 235–236)</p>	<p>Received supportive affection correlated positively with IgM, CD3+, and CD4+, yet correlated negatively with natural killer cytotoxicity. Expressed supportive affection correlated positively with IgG, IgM, CD3+, CD4+, CD8+, and CD19+. Correlations with IgG, CD3+, CD4+, and CD19+ remained significant after the effect of received supportive affection was controlled.</p>	<p>These data further illustrate AET's claim that affectionate communication covaries with regulatory physiological pathways for immunocompetence.</p>
53	Floyd, Pauley et al. (2014b)	<p>1. "With the effect of received affection controlled, expressed affectionate communication is 1) inversely associated with resting pulse rate, 2) directly associated with natural killer cell cytotoxicity, and 3) directly associated with immunoglobulin A."</p> <p>2. "How [is] expressed affection</p>	<p>Net of the effects of received affection, expressed affection was negatively related to resting pulse rate, positively related to NK cell cytotoxicity, and positively related to IgM but not to IgA.</p>	<p>These findings further illustrate the connections between affectionate communication, immunocompetence, and stress management as described in AET.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
54	Floyd & Ray (2003)	<p>related to IgM, if at all?" (pp. 9–10)</p> <ol style="list-style-type: none"> "Speakers' fundamental frequency (F_0) is directly related to (a) receivers' and (b) observers' perceptions of their affection level toward receivers." "Speakers' variance in fundamental frequency is directly related to (a) receivers' and (b) observers' perceptions of their affection level toward receivers." "Speakers' acoustic intensity is inversely related to (a) receivers' and (b) observers' perceptions of their affection level toward receivers." (pp. 60–62) 	<p>Higher average F_0 was related to greater perceived affection for female receivers, lower perceived affection for male receivers, and higher perceived affection for male and female observers. Greater variance in F_0 was associated with greater perceived affection by receivers and observers. Speakers' acoustic intensity had no effect.</p>	<p>These findings link to AET's claim that affection serves viability purposes, insofar as lower F_0 has, across species, tended to signal threats to viability from predators.</p>
55	Floyd & Riforgiate (2008)	<ol style="list-style-type: none"> "In marital relationships, affectionate communication predicts waking cortisol level, such that higher amounts of affection correspond to higher waking values." In marital relationships, affectionate communication predicts diurnal variation in cortisol, such that higher amounts of affection correspond to higher morning-to-evening change in cortisol levels." "How, if at all, does marital affectionate communication predict cortisol levels at noon, afternoon, and evening?" "In marital relationships, affectionate communication predicts mean dehydroepiandrosterone-sulfate, such that higher amounts of affection correspond to higher DHEA-S levels." "In marital relationships, affectionate communication predicts cortisol: DHEA-S ratio, such that higher amounts of affection correspond to lower ratio values." (pp. 355–356) 	<p>Marital affection was positively related to cortisol at waking and in evening. Affection received from spouses was negatively related to diurnal cortisol change. Marital affection was unrelated to DHEA-S but verbal affection was negatively related to the cortisol:DHEA-S ratio.</p>	<p>These data exemplify AET's claim that affectionate communication covaries with regulatory pathways for stress.</p>
56	Floyd et al. (2004)	<ol style="list-style-type: none"> "Heterosexual men receive more affection from their own fathers than do homosexual or bisexual men." "To avoid even the appearance that their affectionate behavior might be sexual in nature, men communicate affection to their sons more through supportive activities than through direct verbal or nonverbal expressions." "The amount of affectionate communication that men receive from their fathers is linearly related to the closeness and interpersonal involvement that characterizes their father-son relationships." "Of gay and bisexual sons, 	<p>Heterosexual men received more affection from their fathers than did homosexual or bisexual men. Supportive affection was more common than direct verbal or nonverbal expressions. Affection was associated with closeness and interpersonal involvement. Gay and bisexual sons received the most paternal affection if their fathers were unaware of their orientations, less if their</p>	<p>The provision of affection from parents to children has implications for the parents' reproductive success, which is complicated if the children identify as homosexual or bisexual. This pattern of findings is in line with AET's arguments about how affectionate communication is related to fertility.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
57	Floyd, Veksler et al. (2017)	<p>those whose fathers are not aware of their orientations receive the most affection from their fathers, those whose fathers are aware of their orientations receive the least affection, and those who are unsure about their fathers' awareness receive affection that is in between." (pp. 194–196)</p> <ol style="list-style-type: none"> 1. "Among healthy adults, higher social inclusion predicts lower levels of blood glucose." 2. "Among healthy adults, higher social inclusion predicts higher levels of HDLs [high-density lipoproteins]." 3. "Among healthy adults, higher social inclusion predicts lower levels of LDLs [low-density lipoproteins]." (p. 1040) 	<p>fathers were unsure, and the least if their fathers were aware.</p> <p>Social inclusion was inversely associated with blood glucose and LDL yet was unrelated to HDL.</p>	<p>Although not a measure of affection, per se, social inclusion reflects AET's general claim that close relationships have salutary health effects, a claim supported by these metabolic findings.</p>
58	Floyd, York, and Ray (2020)	<ol style="list-style-type: none"> 1. "What proportion of the variation in trait affectionate communication behavior is heritable?" 2. "What proportion of the covariation in trait expressed affection and trait received affection is heritable?" (p. 5) 	<p>Using a twins paradigm, the study found that approximately 45% of the variance in trait expressed affection and 21% of the variance in trait received affection was heritable. Approximately 26% of the covariation in expressed and received affection was heritable.</p>	<p>AET claims that the need and capacity for affection are inborn, suggesting a partly genetic basis for trait affection, and this was the first study to confirm such a basis.</p>
59	Frye-Cox and Hesse (2013)	<ol style="list-style-type: none"> 1. "This study sought to examine the unique contribution of loneliness and intimate communication in explaining the association between alexithymia and marital quality." (p. 204) 	<p>In marital couples, higher alexithymia was associated with greater loneliness, which predicted lower intimate communication, which was related to lower marital quality.</p>	<p>Although not a direct examination of affectionate communication, this study shows that an impairment in relating to others (alexithymia) is detrimental in part because it impairs the formation and maintenance of close relationships.</p>
60	Gaule (2015)	<ol style="list-style-type: none"> 1. "There will be a positive association between DAMs [deceptive affectionate messages] and WAs [withholding affection] and keeping the relationship in existence." 2. "What is the association between DAMs and pro-social forms of relationship maintenance?" 3. "What other forms of DAMs may exist that are directly related to the maintenance of romantic relationships?" 4. "What is the association between WAs and pro-social forms of relationship maintenance?" 5. "What other forms of WAs may exist that are directly related to 	<p>Use of DAMs and WAs were negatively related with keeping a relationship in existence. DAMs and WAs were negatively related to prosocial behaviors</p>	<p>These findings exemplify the ubiquity of deceptive affectionate communication and illustrate its associations with negative relational outcomes.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
61 Gillen & Horan (2013)	<p>keeping a romantic relationship in existence?"</p> <p>6. "How are DAMs and WAs associated with other relational outcomes?" (pp. 32–33)</p> <p>1. "What is the relationship between beliefs about deception and the frequency of romantic partner deception (e.g., general deception and DAMs [deceptive affectionate messages])?"</p> <p>2. "What is the relationship among frequency of romantic partner deception (e.g., general deception and DAMs) and both commitment and satisfaction?" (pp. 353–354)</p> <p>3. "ACE [affectionate communication exchanged] during an interaction will be positively associated with interpersonal closeness."</p> <p>4. "ACE during an interaction will negatively predict stress about a relational partner."</p>	<p>Frequency of DAMs was unrelated to beliefs about deception, commitment, and satisfaction.</p>	<p>AET provides that people may communicate affection in deceptive ways yet does not specify whether doing so will have positive or negative effects on relationships.</p>
62 Graves (2021)	<p>5. "ACE during an interaction will be (a) negatively associated with negative affect and (b) positively associated with positive affect."</p> <p>6. "ACE during an interaction will be (a) negatively associated with behavioral inhibition system sensitivity and (b) positively associated with behavioral activation system sensitivity."</p> <p>7. "ACE during an interaction will be (a) negatively associated with dominance–submissiveness and (b) positively associated with affiliation–disaffiliation." (pp. 359–362)</p>	<p>Affectionate communication was positively related to positive affect, behavioral activation, and affiliation, and negatively related to negative affect, dominance, and stress.</p>	<p>These findings add to the evidence that affectionate communication covaries with stress, as well as with relational variables such as affiliation, dominance, and affect.</p>
63 Hesse (2016)	<p>1. "Affection deprivation is inversely related to the number of close relationships, family closeness, and family satisfaction, while being directly related to loneliness, depression, anxious attachment, and avoidant attachment."</p> <p>2. "Trait received affection is directly related to the number of close relationships, family closeness, and family satisfaction, while being inversely related to loneliness, depression, anxious attachment, and avoidant attachment."</p> <p>3. "Pornography exposure is directly related to affection deprivation."</p> <p>4. "Pornography exposure is inversely related to trait received affection."</p> <p>5. "Affection deprivation mediates the relationships between pornography exposure and both</p>	<p>Affection deprivation was related to anxious attachment, family satisfaction, depression, and loneliness. Trait received affection was related to number of close relationships, anxious attachment, avoidant attachment, family closeness, family satisfaction, depression, and loneliness. Pornography exposure was related to both affection deprivation and trait received affection. Affection deprivation and trait received affection mediated the associations between pornography exposure</p>	<p>AET claims that affectionate communication contributes directly to the formation and maintenance of close relationships, and these findings support that claim. The theory does not speak specifically to pornography use but these findings illustrate one manner in which people may compensate for affection deprivation.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
64	Hesse & Floyd (2008)	<p>mental and relational wellbeing."</p> <p>6. "Trait received affection mediates the relationships between pornography exposure and both mental and relational wellbeing." (pp. 9–10)</p> <p>7. "Alexithymia is inversely related to the experience of affectionate communication."</p> <p>8. "Alexithymia is inversely related to the amount of affection communicated in an individual's closest relationship."</p> <p>9. "Affectionate experience mediates the relationship between alexithymia and (a) happiness, (b) nonverbal immediacy, (c) the amount of affection communicated in an individual's closest relationship, (d) relational closeness in an individual's closest relationship, (e) depression, and (f) stress." (pp. 797–798)</p>	<p>and all mental and relational outcomes.</p> <p>Alexithymia was inversely related to the experience of affectionate communication. Affection experienced mediated the relationships between alexithymia and all outcomes except stress.</p>	<p>AET posits a central role for affectionate communication in the development and maintenance of relationships, and alexithymia (which inhibits that ability) shows an inverse association with affection.</p>
65	Hesse & Floyd (2011)	<p>1. "Trait affectionate experience will mediate the relationship between alexithymia and attachment behaviors."</p> <p>2. "Trait affectionate experience will mediate the relationship between alexithymia and an individual's overall number of close relationships." (p. 452)</p>	<p>Trait affection mediated the associations between alexithymia and both attachment behaviors and number of close relationships.</p>	<p>These findings illustrate AET's claims about the utility of affectionate communication for relationship maintenance, even serving as a mechanism via which alexithymia inhibits the maintenance of relationships.</p>
66	Hesse & Floyd (2019)	<p>1. "Experienced affection is positively related to (a) relational satisfaction and (b) closeness and inversely related to (c) loneliness and (d) depression."</p> <p>2. "Affection deprivation is inversely related to (a) relational satisfaction and (b) closeness and positively related to (c) loneliness and (d) depression."</p> <p>3. "Pornography consumption is (a) positively related to affection deprivation and (b) inversely related to experienced affection."</p> <p>4. "Pornography consumption is inversely related to (a) relational satisfaction and (b) closeness and positively related to (c) loneliness and (d) depression."</p> <p>5. "Affection deprivation is positively related to the tendency to use pornography for the purposes of (a) reducing loneliness, (b) finding escape, and (c) building parasocial relationships."</p> <p>6. "How, if at all, is affection deprivation related to the tendency to use pornography for the purposes of (a) improving life satisfaction and (b)</p>	<p>Experienced affection was related to relational satisfaction, closeness, loneliness, and depression, as was affection deprivation. Pornography consumption was related to experienced affection, loneliness, and depression. Affection deprivation predicted the tendency to use pornography to reduce loneliness, find escape, and build parasocial relationships.</p>	<p>These findings support AET's claim that affection contributes to the maintenance of relationships and illustrate one way in which the aversive state of affection deprivation is managed.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
67	Hesse & Floyd (2024)	<p>achieving sexual gratification?"</p> <p>7. "Pornography consumption, as an adaptive or maladaptive mechanism to cope with affection deprivation, moderates the relationships between affection deprivation and relational (satisfaction and closeness) and mental (loneliness and depression) well-being." (pp. 3892–3893)</p> <p>1. "Affectionate communication is inversely associated with (a) depressive symptoms and (b) psychological stress."</p> <p>2. "Affectionate communication mediates the association between depressive symptoms and (a) perceived stigma, (b) internalized homophobia, and (c) harassment/discrimination."</p> <p>3. "Affectionate communication mediates the association between psychological stress and (a) perceived stigma, (b) internalized homophobia, and (c) harassment/discrimination." (p. 9)</p>	<p>Affectionate communication was associated with depressive symptoms and stress. Affectionate communication mediated associations between depressive symptoms and stress on perceived stigma and homophobia.</p>	<p>These findings are in line with a stress-buffering effect of AET, consistent with the contention that affectionate communication covaries with regulatory pathways for stress.</p>
68	Hesse, Floyd, Boren et al. (2018a)	<p>1. "Men's tonic testosterone level is inversely related to their trait level of expressed affection."</p> <p>2. "Tonic testosterone is inversely related to affectionate communication in men's romantic relationship."</p> <p>3. "Phasic testosterone is elevated for men who engage in affection exchange, relative to controls."</p> <p>4. "How long does such an increase [in phasic testosterone] persist over time?" (pp. 8–9)</p>	<p>Tonic testosterone was inversely related to trait expressed affection but unrelated to affection in the romantic relationship. Phasic testosterone was elevated after affection exchange; the increase had dissipated after 15 minutes.</p>	<p>Higher testosterone facilitates the display of attractive phenotypic and behavioral qualities, thus supporting reproductive opportunity as AET suggests.</p>
69	Hesse et al. (2022)	<p>1. "Those reporting adequate affection score higher on sleep quality and lower on depression, loneliness, chronic pain, nightmares, and stress than those reporting excessive affection or affection deprivation."</p> <p>2. "Those reporting excessive affection score higher on sleep quality and lower on depression, loneliness, chronic pain, nightmares, and stress than those reporting affection deprivation." (p. 300)</p>	<p>Sleep quality was higher and depression, loneliness, chronic pain, nightmares, and stress were lower for those reporting adequate affection than for those receiving excessive or deficient affection. Those reporting excessive affection had higher sleep quality and lower depression, loneliness, chronic pain, and stress than those reporting affection deprivation.</p>	<p>These findings support AET's postulates regarding the range of tolerance for affection and the problems associated with excessive or deficient affection.</p>
70	Hesse & Gibbons (2019)	<p>1. "Time 1 alexithymia is inversely related to T2 [time 2] affectionate communication in romantic relationships."</p> <p>2. "Time 2 relational</p>	<p>T1 alexithymia was inversely related to T2 affectionate communication. Affectionate</p>	<p>These findings offer alexithymia as an individual difference affecting the ability to express affection and</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
71 Hesse and Mikkelson (2017)	<p>commitment (affectionate communication and relational maintenance behaviors) mediates the inverse relationships between Time 1 alexithymia and Time 2 relational outcome variables (relational satisfaction and commitment." (p. 571)</p> <ol style="list-style-type: none"> 1. "Affection deprivation is inversely correlated to relationship satisfaction." 2. "Affection deprivation is inversely correlated to relationship closeness." 3. "Affection deprivation is inversely correlated to relationship commitment." 4. "Does relational maximization serve as a moderator for the relationships between affection deprivation and relational outcomes (satisfaction, closeness, commitment)?" 5. "Does relational uncertainty serve as a moderator for the relationships between affection deprivation and relational outcomes (satisfaction, closeness, commitment)?" (pp. 24–26) 6. "Parent-child affectionate communication is positively related to (a) relational satisfaction and (b) relational closeness." 7. "Parent-child affectionate communication is positively related to (a) life satisfaction and (b) self-esteem." 8. "Excessive affection is negatively related to (a) relational satisfaction and (b) relational closeness." 9. "Excessive affection is negatively related to (a) life satisfaction and (b) self-esteem." 10. "Parent-child affectionate communication is positively related to (a) helicopter parenting and (b) excessive affection." 11. "Helicopter parenting is positively related to excessive affection." 12. "Helicopter parenting and excessive affection mediate the relationship between parent-child affectionate communication and the four outcome measures [relational satisfaction, closeness, life satisfaction, and self-esteem]." 13. "Does parent-child affectionate communication moderate the relationship between helicopter parenting and any of the 	<p>communication mediated the inverse relationships between T1 alexithymia and T2 relational satisfaction and commitment.</p> <p>Affection deprivation was inversely related to satisfaction, closeness, and commitment. Maximization moderated the relationships between deprivation and satisfaction and closeness, but not commitment. Uncertainty moderated the relationships between deprivation and satisfaction and closeness, but not closeness.</p> <p>Parent-child affectionate communication was related to relational satisfaction, closeness, life satisfaction, self-esteem, helicopter parenting, and excessive affection. Excessive affection was related to relational satisfaction, life satisfaction, self-esteem, and helicopter parenting. Helicopter parenting and excessive affection mediated the relationship between parent-child affectionate communication and closeness and life satisfaction. Parent-child affectionate communication moderated the relationship between helicopter parenting and closeness.</p>	<p>thus to benefit from it in the ways AET suggests.</p> <p>AET provides that affectionate communication contributes to relationship quality and stability, so when people are deprived of affection, it is theoretically consistent that these qualities would suffer, as the present findings illustrate.</p> <p>These findings were the first to demonstrate the deleterious effects of excessive affection, in support of AET's fourth postulate.</p>
72 Hesse, Mikkelson et al. (2018b)			

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
73 Hesse, Mikkelson, and Tian (2021)	<p>four outcome measures?" (pp. 460–463)</p> <ol style="list-style-type: none"> 1. "Affection deprivation positively predicts (a) stress, (b) loneliness, and (c) depression over time." 2. "Affection deprivation negatively predicts (a) life satisfaction and (b) happiness over time." 3. "Does sex moderate the predictions dealing with affection deprivation and the outcome measures over time?" 4. "Does living alone moderate the predictions dealing with affection deprivation and the outcome measures over time?" (p. 2969) 	<p>Affection deprivation positively predicted stress, loneliness, and depression over time, but did not predict life satisfaction or happiness. Women experienced more depression than men at both low and high levels of affection deprivation. Living alone had no moderating effects.</p>	<p>These finding demonstrate, using longitudinal data, that affection deprivation predicts aversive outcomes, consistent with AET's claims about deficient affection.</p>
74 Hesse and Mikkelson (2021)	<ol style="list-style-type: none"> 1. "The general perception of excessive affection is directly related to a) depression and b) stress." 2. "The general perception of excessive affection is inversely related to a) general health and b) self-esteem." 3. "The general perception of excessive affection is directly related to a) anxious attachment and b) avoidant attachment." 4. "The general perception of excessive affection is directly related to loneliness." 5. "The general perception of excessive affection is inversely related to a) happiness and b) life satisfaction." 6. "The general perception of excessive affection is inversely related to a) social self-efficacy, b) social support, and c) perceived number of close relationships." 7. "Excessive affection in a romantic relationship is directly related to a) stress, b) loneliness, c) anxious attachment, and d) avoidant attachment." 8. "Excessive affection in a romantic relationship is inversely related to a) self-esteem and b) life satisfaction." 9. "Excessive affection in a romantic relationship is inversely related to a) relational satisfaction, b) relational closeness, and c) relational commitment." (pp. 323–331) 	<p>Excessive affection showed predicted relationships with anxious and avoidant attachment, loneliness, stress (in a relationship), and self-esteem (in a relationship).</p>	<p>These findings illustrate theoretically consistent associations with excessive affection.</p>
75 Hesse and Raucher (2019)	<ol style="list-style-type: none"> 10. "Perceived level of doctor affectionate communication is directly correlated with patient (a) perceived communication competence of provider and (b) trust of provider." 11. "Affection deprivation is 	<p>Perceived level of doctor affectionate communication was associated with perceived competence, willingness to communicate, patient</p>	<p>These findings demonstrate that the need for, and utility of, affectionate communication extends beyond personal relationships to those</p>

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76	Hesse, Rauscher, Roberts, and Ortega (2014)	<p>inversely correlated with patient (a) perceived communication competence of provider and (b) trust of provider."</p> <p>12. "Perceived level of doctor affectionate communication is directly correlated with patient (a) willingness to communicate about health, (b) perceived patient involvement with care, (c) breadth of openness with provider, and (d) depth of openness with provider."</p> <p>13. "Affection deprivation is inversely correlated with patient (a) willingness to communicate about health, (b) perceived patient involvement with care, (c) breadth of openness with provider, and (d) depth of openness with provider."</p> <p>14. "Perceived level of doctor affectionate communication is directly correlated with patient (a) patient satisfaction and (b) patient adherence."</p> <p>15. "Affection deprivation is inversely correlated with patient (a) patient satisfaction and (b) patient adherence."</p> <p>16. "Does perceived level of doctor affectionate communication moderate the relationship between communication competence and patient outcomes?"</p> <p>17. Does affection deprivation moderate the relationship between communication competence and patient outcomes?" (pp. 883–885)</p>	<p>involvement, breadth of openness, patient satisfaction, and adherence. Affection deprivation was associated with perceived competence, trust, willingness to communicate, patient involvement, breadth of openness, depth of openness, patient satisfaction, and adherence.</p> <p>Hurtful family environment had a significant direct relationship with trait but not state affectionate communication.</p>	<p>that are transactional in nature.</p> <p>These findings help to explicate the link between affectionate communication and the health of relationships, which are necessary for viability and fertility, according to AET.</p>
77	Hesse & Tian (2020)	<p>1. "Affectionate communication is negatively associated with (a) depression and (b) loneliness for husbands and wives."</p>	<p>Affectionate communication was negatively associated with depression for</p>	<p>These findings demonstrate that affectionate communication is</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
78	Hesse & Trask (2014)	<p>2. "Affection deprivation is positively associated with (a) depression and (b) loneliness for husbands and wives."</p> <p>3. "Affectionate communication is positively associated with (a) marital quality and (b) emotional intimacy for husbands and wives."</p> <p>4. "Affection deprivation is negatively associated with (a) marital quality and (b) emotional intimacy for husbands and wives."</p> <p>5. "Are there any significant partner effects in the relationships between affectionate communication, affection deprivation, and both mental and relational well-being?"</p> <p>6. "Affection deprivation mediates the actor effects between affectionate communication and depression, loneliness, marital quality, and emotional intimacy."</p> <p>7. "Are there any significant partner mediation effects for affection deprivation between affectionate communication and depression, loneliness, marital quality, and emotional intimacy?" (pp. 970–971)</p> <p>1. "A positive relationship exists between expressed affection and secure attachment after controlling for received affection."</p> <p>2. "A negative relationship exists between expressed affection and (a) fearful attachment, (b) dismissive attachment, and (c) preoccupied attachment styles after controlling for received affection."</p> <p>3. "Secure attachment styles are significantly higher than three insecure attachment styles in expressed affection after controlling for received affection." (p. 56)</p>	<p>husbands but not for wives and was negatively associated with loneliness for wives but not for husbands. It was positively associated with marital quality and emotional intimacy for both spouses. Affection deprivation was positively associated with depression and loneliness, and negatively associated with marital quality, for both spouses, and was negatively associated with emotional intimacy for husbands but not for wives. Affection deprivation partially mediated the effects of affectionate communication on wives' depression, loneliness, and marital quality.</p> <p>Net of the effects of received affection, expressed affection was positively associated with secure attachment and inversely associated with fearful, dismissive, and preoccupied attachment, and individuals with secure attachment expressed more affection than did those with insecure attachment.</p> <p>Received but not expressed affection was negatively associated with perceptions of hurt, severity, and rumination following a transgression. Controlling for related perceptions, neither received nor expressed affection predicted perceptions of transgressions.</p>	<p>adaptive, and affection deprivation is maladaptive, as AET suggests, and also suggest potential connections between affectionate communication and affection deprivation.</p> <p>AET claims that affectionate communication facilitates the formation and maintenance of significant relationships, and these findings clarify the associations between that process and individual attachment style.</p>
79	Horan (2012)	<p>1. "How does the frequency of affectionate communication, both expressed and received, relate to perceptions of hurt, severity, and rumination following a transgression?"</p> <p>2. "While controlling for related transgression perceptions, how do expressed and received affectionate communication compare in their abilities to predict perceptions of transgressions?" (pp. 115–116)</p>	<p>Received but not expressed affection was negatively associated with perceptions of hurt, severity, and rumination following a transgression. Controlling for related perceptions, neither received nor expressed affection predicted perceptions of transgressions.</p>	<p>AET claims that affectionate communication is instrumental for the formation and maintenance of relationships, which are threatened by relational transgressions, and these findings add clarity to the connection between such transgressions and affectionate communication.</p>
80	Horan (2013)	<p>1. "There will be differences in reported feelings of guilt and shame in response to expressing deceptive</p>	<p>Feelings of guilt and shame were unaffected by type of expressed</p>	<p>AET is unique in its claim that affectionate communication, while</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
81	<p>affection based on the affectionate message expressed (verbal, nonverbal, or equally both), the referent of the feelings lied about (feelings about the source, their romantic partner, or the context/situation), and the motive (the affection was habit/routine, to ease/avoid conflict, protect/enhance partner's feelings/face, or protect my own feelings/face)."</p> <p>2. "There will be differences in reported thoughts of rumination in response to expressing deceptive affection based on the affectionate message expressed (verbal, nonverbal, or equally both), the referent of the feelings lied about (feelings about the source, their romantic partner, or the context/situation), and the motive (the affection was habit/routine, to ease/avoid conflict, protect/enhance partner's feelings/face, or protect my own feelings/face)." (pp. 8, 10)</p> <p>1. "How (dis)honest are sexually active individuals in (non)disclosures of their number of previous sexual partners?"</p> <p>2. "Are there differences in (non)disclosure of the number of previous sexual partners based on reported safer sex behaviors?" (p. 454)</p>	<p>affection or motive. Guilt was higher when people lied about feelings related to themselves, compared to feelings about partners or contexts, and shame was higher when people lied about feelings related to themselves, compared to feelings about contexts. Rumination was higher when people expressed both verbal and nonverbal deceptive affection compared to one or the other. Rumination was lower when people lied about feelings related to contexts, compared to feelings about partners or themselves. Rumination did not differ as a function of motives.</p> <p>Approximately 60% of participants had deceptively represented their number of previous sexual partners. Deception about previous sexual partners accounted for some variance in safer sex behaviors.</p>	<p>often beneficial, can also be risky, and these findings reflect some of the risks (guilt, shame, rumination) associated with expressing affection that is deceptive.</p> <p>Sex may facilitate the emotional closeness that AET describes. Postulate 3a may benefit from boundary conditions related to discussing sex and intimate affection in newer, less-established relationships.</p>
82	<p>1. "Affectionate communication received is positively related to romantic relationship satisfaction."</p> <p>2. "Affectionate communication received is negatively related to perceived quality of alternatives."</p> <p>3. "Affectionate communication received is positively related to investment size."</p> <p>4. "Affectionate communication received is positively related to commitment."</p> <p>5. "Communicating affection negatively relates to quality of alternatives and positively relates to satisfaction, investment size, and commitment."</p> <p>6. "To what extent does affection received versus affection communicated predict satisfaction?"</p>	<p>Received affection was positively related to satisfaction and commitment but was unrelated to quality of alternatives or investment size. Receiving affection was a stronger predictor of satisfaction than communicating affection, yet communicating affection was a stronger predictor of commitment than receiving affection.</p>	<p>Postulate 3a specifies that affectionate communication contributes to relationship formation and maintenance, and these findings indicate how it relates specifically to relationship quality indicators.</p>
83	<p>1. "To what extent does affection received versus affection communicated predict commitment?" (pp. 399-401)</p> <p>2. "Writing about deceptive</p>	<p>Writing about deceptive</p>	<p>AET does not specify</p>

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Butterfield (2011)	<p>affection will result in an increased heart rate."</p> <p>3. "Writing about deceptive affection will result in increased blood pressure."</p> <p>4. "Are there heart rate differences between written recalls of honest and deceptive affectionate messages?"</p> <p>5. "Are there blood pressure differences between written recalls of honest and deceptive affectionate messages?"</p> <p>6. "Are there heart rate differences based on the motive for deceptive affection?"</p> <p>7. "Are there blood pressure differences based on the motive for deceptive affection?"</p> <p>8. "There will be differences in feelings of guilt and shame based on the motive for the deceptive affection." (pp. 84–85)</p>	<p>affection did not influence heart rate or blood pressure. Neither heart rate nor blood pressure was affected by written recalls of honest and deceptive affection, nor by the motives for deceptive affection. The motives for deceptive affection did not influence guilt or shame.</p>	<p>that deceptive affection is necessarily a stressor, and the lack of stress associated with deceptive affection in the present study suggests that it may not be stressful.</p>
84 Horan and Booth-Butterfield (2013)	<p>1. "Can communicators identify instances of deceptive affection?"</p> <p>2. "When communicating deceptive affection, what feelings are the subject of deception?"</p> <p>3. "When communicating deceptive affection, what affectionate messages are employed to convey deception?"</p> <p>4. "What are sources' motives for communicating DAMs [deceptive affectionate messages]? (pp. 199–200)</p>	<p>Out of 51 submitted diaries, 180 descriptions of DAMs were included. Self-oriented feelings were the most common subjects of deception by far. DAMs were equally likely to be verbal and nonverbal. The most common motive, by far, was a face-saving motive.</p>	<p>These results describe the specifics of deceptive affectionate messages, which AET's second postulate makes possible.</p>
85 Horan and Cafferty (2017)	<p>1. "When communication about condom use occurred, who initiated the conversation?"</p> <p>2. "When communication about condom use occurred, what messages were expressed?"</p> <p>3. "How did individuals react to condom messages?"</p> <p>4. "What reason(s) do individuals provide for not having a condom conversation?" (pp. 2–3)</p>	<p>Most people indicated that they initiated a condom conversation. Condom possession, condom exploration, condom demand, and health concerns were the most frequent messages. Compliance and agreement were the most frequent reactions, whereas spontaneity and misconception of risk were the most frequent reasons for forgoing a condom conversation.</p>	<p>This study used AET as a framework for studying potentially risky communication that can occur in the context of sharing (sexual) affection.</p>
86 Horan, Parker-Raley, and Cafferty (2015)	<p>1. "What feelings do ED [emergency department] staff experience when they report withholding affectionate expressions?"</p> <p>2. "What, if anything, do ED staff communicate in lieu of affection?"</p> <p>3. "What motives drive ED staff</p>	<p>ED staff reported feeling either pleasant, unpleasant, or neutral feelings when withholding affectionate expressions. In lieu of affection, ED staff communicated no new action, nonchalance,</p>	<p>AET makes clear that affection does not have to be expressed even when it is felt, making room for the possibility that withholding affection can be done strategically. These findings illustrate the</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴ withholding affection?" (pp. 8–9)	Key Findings	Contributions
87 Horan, Morgan et al. (2018a)	<p>1. "Frequency of sexual activity will be related to relational investment (satisfaction, investment size, quality of alternatives, and commitment)."</p> <p>2. "Frequency of orgasm will be related to relational investment (satisfaction, investment size, quality of alternatives, and commitment)."</p> <p>3. "Sexual satisfaction will be related to relational investment (satisfaction, investment size, quality of alternatives, and commitment)."</p> <p>4. "Are there relationships between age and frequency of sex, orgasm, and sexual satisfaction?"</p> <p>5. "Are there differences in frequency of sex, sexual satisfaction, and orgasm based on sex and relationship status?"</p> <p>6. "If contextual factors do explain frequency of sex, orgasm, and sexual satisfaction, do findings obtained in the hypotheses remain true when statistically controlling for [these findings]?" (pp. 6–11)</p>	<p>disaffection, and/or support. Staff reported withholding affection for both personal and professional reasons.</p> <p>Only relational satisfaction was correlated with sexual frequency. Relational satisfaction was related to orgasm from penetration and other means but not from masturbation. Sexual satisfaction was related to commitment, relational satisfaction, and quality of alternatives. Age was related only to frequency of nongenital sexual behavior. Relationship status had virtually no effects. The first two hypotheses remained significant after controlling for additional sources of variance.</p>	<p>specifics of this practice in one context.</p> <p>Using sexual frequency, sexual satisfaction, and orgasm frequency as surrogate measures of affection, this study demonstrated some of the correlations with relationship quality that AET would predict.</p>
88 Horan, Morgan et al. (2018b)	<p>1. "Perceptions of conversation orientation will be positively related to reports of parents' communication about sex (frequency; perceptions)."</p> <p>2. "Perceptions of conformity orientation will be negatively related to reports of parents' communication about sex (frequency; perceptions)."</p> <p>3. "Of FCP [family communication patterns] (e.g., conversation and conformity) and specific parent-child communication about sex (frequency; perceptions), which better predicts how (a) threatening sexually active young adults view communication about sex and (b) how much sexually active young people avoid communication about sex with their sexual partners?"</p> <p>4. "Of FCP (e.g., conversation and conformity) and specific parent-child communication about sex (frequency; perceptions), which better predicts indicators of young adults' sexual safety/risk behaviors (e.g., number of partners and frequency of condom use?"</p> <p>5. "Perceptions of conversation orientation will have an indirect effect on (a) how threatening</p>	<p>Conformity orientation was related to frequency and perception of parents' sexual communication, but conformity orientation was not. Conversation orientation predicted how threatening young adults viewed sexual communication to be and their avoidance of sexual communication. Conformity orientation predicted perceived threat to sexual relationships, and perceptions of parental sexual communication predicted sexual topic avoidance.</p>	<p>Using sexual communication as a surrogate for affectionate communication, this study explores the risks of affectionate messaging, which AET provides can be considerable.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
89 Lewis et al. (2011)	<p>individuals perceive sexual communication, and (b) the degree to which they avoid sexual communication based on the perceptions of sexual communication with their parents."</p> <p>6. "Perceptions of conformity orientation will have an indirect effect on (a) how threatening individuals perceived sexual communication, and (b) the degree to which they avoid sexual communication based on the perceptions of sexual communication with their parents." (pp. 6–7)</p> <p>1. "Trait affection will be positively related to left-dominant frontal EEG [electroencephalography] asymmetry." (p. 350)</p>	<p>Trait affectionate communication had a large positive correlation with left-dominant frontal asymmetry.</p>	<p>These results support AET's contention that the capacity to communicate affection is innate and illustrate that the tendency is associated with neurological characteristics associated with approach rather than avoidance.</p>
90 Lockhart (2019)	<p>1. "Men would report lower levels of affectionate touch than women in their relationships and toward others, and levels of affectionate touch would increase with age."</p> <p>2. "Receiving higher affectionate touch would positively affect perceived partner support, and relational, psychological and physical well-being outcomes."</p> <p>3. "Greater perceived partner support would positively facilitate the association between receiving affectionate touch well-being outcomes (i.e., relational, psychological or physical)."</p> <p>4. "Cortisol and oxytocin would mediate the association between higher levels of affectionate touch and higher levels of well-being outcomes (i.e., relational, psychological or physical)."</p> <p>5. "Greater perceived stress would negatively facilitate the association between receiving affectionate touch and the well-being outcomes (i.e., relational, psychological or physical), as well as the association of perceived partner support and the well-being outcomes."</p> <p>6. "Perceived stress and affectionate touch would predict well-being over time." (pp. 23–24)</p>		

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
91 Manning (2002)	<ol style="list-style-type: none"> 1. "What is the experience of Black men receiving and giving affection to other Black men within the context of friendships?" 2. Are the affectionate needs of Black men being met within their Black male friendships?" (p. 7) 	<p>Based on qualitative interviews, five themes characterized Black men's mutual exchange of affection: 1) men share affection out of loyalty, 2) men share affection to promote brotherhood, 3) men share affection because their own development was characterized by affectionate behavior, 4) men had specific expectations regarding how to give and receive affectionate expressions, and 5) men would not articulate to their friends when they experienced affection deprivation.</p> <p>Nonverbal behavior, interactions, verbal behavior, gift-giving, showing concern/interest, and offering support/encouragement were the themes representing grandparents' modalities for affectionate expression, in order of frequency.</p>	<p>These findings are illustrative of how affection exchange is enacted within the context of close, nonromantic relationships.</p> <p>Affection can be communicated in a variety of overt and covert ways, and these findings illustrate this within the grandparental relationship.</p>
92 Mansson (2012)	<ol style="list-style-type: none"> 1. "How do grandparents communicate affection for their young adult grandchildren?" (p. 2) 	<p>Trust was positively related to four forms of GP-GC affection (love & esteem, caring, memories & humor, and celebratory). Control mutuality was positively related to all forms except celebratory affection; commitment was positively related to love & esteem and caring.</p>	<p>These correlations suggest relational benefits of affection via which grandparents may contribute to the perpetuation of their genetic lines, as AET suggests.</p>
93 Mansson (2013a)	<ol style="list-style-type: none"> 1. "Grandchildren's reports of received affection from their grandparents will be positively related to grandchildren's reports of grandparent trust." 2. "Grandchildren's reports of received affection from their grandparents will be positively related to grandchildren's reports of GP-GC [grandparent-grandchild] relational commitment." 3. "Grandchildren's reports of received affection from their grandparents will be positively related to grandchildren's reports of GP-GC control mutuality." (p. 50) 	<p>Inverse associations with stress were reported for celebratory affection. Depression and loneliness were both inversely associated with the celebratory and memories & humor forms of affection.</p>	<p>AET provides that affectionate communication contributes to well-being, supporting the predictions that relational affection is inversely associated with mental health deficits.</p>
94 Mansson (2013b)	<ol style="list-style-type: none"> 1. "Grandchildren's received affection from their grandparents will be related negatively to the grandchildren's stress." 2. "Grandchildren's received affection from their grandparents will be related negatively to the grandchildren's depression." 3. "Grandchildren's received affection from their grandparents will be related negatively to the 	<p>Inverse associations with stress were reported for celebratory affection. Depression and loneliness were both inversely associated with the celebratory and memories & humor forms of affection.</p>	<p>AET provides that affectionate communication contributes to well-being, supporting the predictions that relational affection is inversely associated with mental health deficits.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
95 Mansson (2013c)	<p>grandchildren's loneliness." (p. 159)</p> <ol style="list-style-type: none"> "Grandchildren's scores on the GRAS [Grandchildren's Received Affection Scale] will be related positively to their scores on the ACI [Affectionate Communication Index]." "Grandchildren's scores on the GRAS will be related positively to their scores on the Trait Affection Received Scale (TARS)." (pp. 202–203) 	<p>All four GRAS factors were significantly correlated with all three ACI factors, as well as the measure of trait received affection.</p>	<p>This study was used to refine operational definitions of affectionate communication in the grandparental relationship.</p>
96 Mansson (2013d)	<ol style="list-style-type: none"> "Grandchildren's scores on the Trait Affection Received Scale will be correlated significantly and positively with their scores on the Grandchildren's Received Affection Scale." "Do grandchildren's scores on the GRAS [Grandchildren's Received Affection Scale] differ depending on their grandparents' biological sex and/or grandparent-grandchild lineage?" (p. 556) 	<p>All four GRAS factors were significantly correlated with trait of receiving affection. Grandchildren received more love & esteem affection from grandmothers than grandfathers but more memories & humor affection from grandfathers than grandmothers. The further received more love & esteem affection from maternal than paternal grandmothers, and more memories & humor affection from maternal grandfathers than from maternal or paternal grandmothers.</p>	<p>By framing affectionate communication as a way of promoting reproductive success, AET implies that genetic lineage matters; the finding that maternal grandmothers provide more affection than paternal grandmothers follows the principle of parental certainty, as AET would imply.</p>
97 Mansson (2013e)	<ol style="list-style-type: none"> "What types of affectionate communication do grandchildren receive from their grandparents and to what extent do grandchildren receive these types of affectionate communication from their grandparents?" "Grandchildren's liking of their grandparents will be related positively to their reports of receiving affection from their grandparents." "Grandchildren's relational satisfaction with their grandparents will be related positively with their reports of receiving affection from their grandparents." "Grandchildren's communication satisfaction with their grandparents will be related positively with their reports of receiving affection from their grandparents." 	<p>Four forms of affectionate communication were evident: love & esteem, caring, memories & humor, and celebratory affection. All four were positively correlated with liking, relational satisfaction, and communication satisfaction.</p>	<p>AET offers that affectionate communication contributes to the maintenance of significant personal relationships, and these correlations illustrate that claim.</p>
98 Mansson (2014a)	<ol style="list-style-type: none"> "Grandparents' expressed affection for their grandchildren will be related negatively to their self-reported stress." "Grandparents' expressed affection for their grandchildren will 	<p>The four GRAS factors were all correlated positively with general mental health. All but celebratory affection were correlated</p>	<p>AET provides that affectionate communication contributes to well-being, supporting the predictions that</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
99 Mansson (2014b)	<p>be related negatively to their self-reported loneliness."</p> <p>3. "Grandparents' expressed affection for their grandchildren will be related positively to their self-reported general mental health." (p. 331)</p> <p>1. "Grandchildren's received affection from their grandparents will be related positively to grandchildren's trust in their grandparents."</p> <p>2. "Grandchildren's received affection from their grandparents will be related positively to grandchildren's use of relational maintenance behaviors with their grandparents."</p> <p>3. "Grandchildren's trust in their grandparents will mediate the relationships between grandchildren's received affection from their grandparents and grandchildren's use of relational maintenance behaviors with their grandparents." (pp. 184-185)</p>	<p>negatively with stress, and all but love & esteem affection were correlated negatively with loneliness.</p> <p>All four GRAS factors were positively related to grandchildren's trust and to relational maintenance behaviors. The mediation hypothesis was largely supported.</p>	<p>relational affection is inversely associated with mental health deficits.</p> <p>These findings illustrate AET's claim that affectionate communication contributes to the maintenance of significant personal relationships.</p>
100 Mansson (2022)	<p>1. "Grandchildren's received affection from their grandparents will be related positively to grandchildren's willingness to serve as future caregivers for their grandparents." (p. 395)</p>	<p>All four GRAS factors were positively related to grandchildren's willingness to serve as future caregivers.</p>	<p>AET provides that expressing affection contributes to survival motives, and elevating the likelihood of receiving caregiving illustrates this principle.</p>
101 Mansson and Booth-Butterfield (2011)	<p>1. "Grandchildren will report that they receive more affectionate communication from their grandmothers than their grandfathers."</p> <p>2. "Granddaughters will report that they receive more affectionate communication from their grandparents than grandsons."</p> <p>3. "Grandchildren will report that they receive more affectionate communication from their biological grandparents than their nonbiological grandparents."</p> <p>4. "According to grandchildren, grandparents' provision of affectionate communication will be related positively to grandchildren's social activity."</p> <p>5. "According to grandchildren, grandparents' provision of affectionate communication will be related negatively to grandchildren's social isolation."</p> <p>6. "According to grandchildren, grandparents' provision of affectionate communication will be related negatively to grandchildren's discomfort with closeness."</p>	<p>Grandchildren received more nonverbal affection, but not more verbal or social support, from grandmothers than grandfathers. Granddaughters did not receive more affection than grandsons. Nonverbal and social support affection was higher from biological than nonbiological grandparents. Verbal and social support affection were related to grandchildren's social activity. All forms of affection were related to social isolation and discomfort with closeness. Affection did not vary as a function of fear of intimacy.</p>	<p>AET does not directly predict that women are more likely to give or to receive affection than men, but it does lead to the prediction that affection is higher from biological than nonbiological relatives, other factors being equal.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
102	Mansson, Floyd, K., and Soliz (2017)	<p>7. "According to grandchildren, grandparents' provision of affectionate communication will be related negatively to grandchildren's fear of intimacy." (pp. 427-429)</p> <p>1. "Affection received from grandparents is associated positively with grandchildren's perceived emotional closeness with their grandparents."</p> <p>2. "Affection received from grandparents is associated positively with grandchildren's perceived shared family identity with their grandparents."</p> <p>3. "Affection received from grandparents is associated positively with grandchildren's perceived availability of social support from their grandparents." (pp. 88-90)</p>	<p>All four GRAS factors were associated with perceived emotional closeness. All but celebratory affection were associated with shared family identity and with social support availability.</p>	<p>These findings illustrate AET's principle that affectionate communication contributes to the maintenance of significant personal relationships.</p>
103	Mansson, Marko et al. (2016)	<p>1. "To what extent do the four dimensions (i.e., masculinity-femininity, individualism-collectivism, power distance, and uncertainty avoidance) of national cultures influence young adults' trait affection given in the U.S., Russia, and Slovakia?"</p> <p>2. "To what extent does trait affection given differ among young adults in the U.S., Russia, and Slovakia?"</p> <p>3. "To what extent do the four dimensions (i.e., masculinity-femininity, individualism-collectivism, power distance, and uncertainty avoidance) of national cultures influence young adults' trait affection received in the U.S., Russia, and Slovakia?"</p> <p>4. "To what extent does trait affection received differ among young adults in the U.S., Russia, and Slovakia?" (p. 408)</p>	<p>Both given and received affection were inversely related to masculinity-femininity and directly related to individualism-collectivism and power distance. Given affection was also inversely related to uncertainty avoidance. U.S. adults scored higher in both measures than Russian or Slovakian adults. Russian adults scored higher in received affection than Slovakian adults; there was no difference for given affection.</p>	<p>AET does not account for cultural differences in affection exchange, but these findings illustrate ways in which affection expression varies as a function of environmental (cultural) characteristics.</p>
104	Mansson and Sigurðardóttir (2017)	<p>1. "To what extent do trait affection given and trait affection received differ among Danes, Icelanders, Poles, and Americans?"</p> <p>2. "To what extent are the four dimensions of national cultures associated with trait affection given in Denmark, Iceland, Poland, and the U.S.?"</p> <p>3. "To what extent are the four dimensions of national cultures associated with trait affection received in Denmark, Iceland, Poland, and the U.S.?" (p. 164)</p>	<p>Americans score higher in affection given and received than those from the other countries. Danes are higher in received affection than Icelanders and Poles, and Poles are higher than Icelanders. Given and received affection are positively associated with individualism-collectivism and negatively associated with uncertainty avoidance. Given affection is also</p>	<p>AET does not account for cultural differences in affection exchange, but these findings illustrate ways in which affection expression varies as a function of environmental (cultural) characteristics.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
105	Mansson and Sigurðardóttir (2019)	1. "Is there a difference in the amount of affection young adult American, Danish, Icelandic, and Polish grandchildren report receiving from their grandparents?" (p. 131)	positively associated with masculinity-femininity.	AET does not account for cultural differences in affection exchange, but these findings illustrate ways in which affection expression in a close relationship varies as a function of cultural identification.
106	McCullough (2014)	1. "What types of supportive and affectionate messages do handlers and therapy dogs communicate during AAIs [animal-assisted interventions]?" (p. 34)	Based on qualitative interviews, six themes of supportive and affectionate messages were identified: responsiveness, attention, encouragement, facilitation, interest from dog, and affection from dog.	AET defines affectionate communication as expressions of loving, caring feelings directed at a living or once-living target, which can and often do include animals.
107	Mederos (2015)	1. "Interracial couples will exhibit lower amounts of tie signs than intraracial couples." 2. "[How] do intraracial couples and interracial couples differ, if at all, in the frequency at which they display specific intimate tie signs?" 3. "Interracial couples with one Black member will exhibit lower amounts of tie signs than interracial couples without one Black member." 4. "Tie signs are (a) inversely related to secondary immune deficiencies, (b) directly related to general mental health, (c) directly related to relationship satisfaction, and (d) directly related to relationship closeness." 5. "Tie signs will be (a) directly related to trait affection given and (b) inversely related with affection deprivation." 6. "The relationship between tie signs and ethnic identification will be mediated by (a) trait affection received, (b) trait affection given, and (c) general avoidance." 7. "Men in romantic relationships will enact more tie signs than women in romantic relationships." 8. "Does the racial composition of a couple affect the rate at which men display specific intimate tie signs?" (pp. 16–22)	Interracial couples displayed more tie signs than intraracial couples. Having a Black member did not affect frequencies. Tie sign frequencies were positively related to secondary immune deficiencies, general mental health, satisfaction, closeness, and trait affection given, and negatively related to affection deprivation. The relationship between tie signs and ethnic identification was not mediated by trait affection received or given, or by general avoidance. Men did not enact more tie signs than women, and racial composition did not affect men's tie sign behavior.	As nonverbal expressions of affection, tie signs are associated with both relational and mental wellness, as AET predicts. The finding of a positive relationship between tie signs and secondary immune deficiencies is counter to what AET would predict. AET makes no predictions about the effects of race.
108	Muhlestein (2020)	1. "How do virtual events affect human connection?" (p. 11)	Compared to face-to-face events, virtual events were associated with lower fulfillment of	AET does not speak specifically to the effects of communication modality, but these

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
109 Parker-Raley and Horan (2014)	<ol style="list-style-type: none"> 1. "Can ED [emergency department] providers identify a time when they expressed DAMs [deceptive affectionate messages]?" 2. "What contextual features do ED staff report influence their use of DAMs?" 3. "When communicating DAMs, what feelings are the subject of deception?" 4. "When communicating DAMs, what affectionate messages are utilized?" 5. "What motives do ED providers report as driving their use of DAMs?" (p. 7) 	<p>the need for affection.</p> <p>Among ED providers surveyed, 77% identified an instance of using DAMs. Contextual features were (1) it was part of customer service, (2) it was part of the job, and (3) it was an emotional expression. Self-, other-, and context-oriented feelings were identified, as well as the perception that no feeling was involved. DAMs were communicated verbally, nonverbally, and through the use of general feelings. The motives of professionalism, self-protection, and concern for family drove the use of DAMs in the ED.</p>	<p>findings suggest that the decreased presence of virtual communication may inhibit the fulfillment of people's needs for affection.</p> <p>AET provides that affectionate expressions can be deceptive, communicating affection that is not genuinely felt, and that such expressions can be made strategically. These findings illustrate that principle in one professional context.</p>
110 Pauley, Floyd, and Hesse (2015)	<ol style="list-style-type: none"> 1. "When compared to the effects associated with the presence of a relational partner, affectionate interaction serves as a more efficacious buffer against cortisol reactivity in response to acute stress." 2. "When compared to the effects associated with the presence of a relational partner, affectionate interaction serves as a more efficacious buffer against increases in (a) systolic blood pressure, (b) diastolic blood pressure, and (c) heart rate that accompany an acute stressor." 3. "Do friendships and romantic partnerships differ in their stress-alleviating efficacy in terms of (a) endocrine and (b) cardiovascular markers of stress when an individual is exposed to a stressful event following a period of affectionate interaction?" (p. 649) 	<p>Affectionate interaction buffered individuals from stress-driven increases in heart rate and systolic and diastolic blood pressure. The stress-buffering effect on cortisol was moderated by relationship type, wherein interacting with a romantic partner was more stress-buffering than interacting with a friend.</p>	<p>AET provides that one pathway through which affectionate communication supports health is by modulating the body's stress response, and these findings illustrate that claim.</p>
111 Punyanunt-Carter (2004)	<ol style="list-style-type: none"> 1. "Affectionate communication and relational satisfaction are related to married and dating relationships." 2. "Affectionate communication and communication satisfaction are related for married and dating couples and predict communication satisfaction." 	<p>Relational satisfaction and communication satisfaction were both related to supportive, but not verbal or nonverbal, affection. Married and dating individuals differed in</p>	<p>AET provides that affectionate communication contributes to the maintenance of close relationships, and the findings on relational and communication</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
112 Redlick & Vangelisti (2018)	<p>3. "Married and dating individuals will significantly differ in specific nonverbal affectionate communication behavior."</p> <p>4. "Married and dating individuals will significantly differ on specific verbal affectionate communication behavior."</p> <p>5. "Married and dating individuals will significantly differ on specific supportive affectionate communication behavior." (pp. 1155–1156)</p> <p>1. "There will be a significant and positive association between PMV [partner mate value] and individuals' tendency to engage in DAMs [deceptive affectionate messages]."</p> <p>2. "Will commitment act as a significant mediator and/or moderator of a significant relationship between PMV and individuals' tendency to engage in DAMs?"</p> <p>3. "Will satisfaction act as a significant mediator and/or moderator of a significant relationship between PMV and individuals' tendency to engage in DAMs?" (pp. 3–4)</p>	<p>multiple nonverbal behaviors and in one verbal behavior, all of which were more common for dating than married couples.</p> <p>Partner mate value was inversely related to the tendency to use DAMs. Neither commitment nor satisfaction was relevant for this association by itself; nonetheless, satisfaction was a significant mediator when commitment was low versus high.</p>	<p>satisfaction illustrate this claim.</p> <p>AET provides that DAMs can be used strategically; these findings suggest that as people value their romantic partners more, they are less likely to use DAMs, which may be perceived as risky.</p>
113 Richards (2006)	<p>1. "Individuals who verbally communicate about affectionate expression will modify their affectionate expressions according to their partners' preference."</p> <p>2. "To what extent do individuals show understanding of partner preference for affectionate expressions?"</p> <p>3. "Understanding of partner's affectionate expressions is positively associated with the relationship satisfaction of both individuals."</p> <p>4. "The extent to which individuals modify their own affectionate expressions based on their partner's preference is positively associated with their degree of relational satisfaction."</p> <p>5. "The extent to which couples verbally communicate about affectionate expressions is associated with their degree of relational satisfaction."</p> <p>6. "Is the extent to which couples verbally communicate about affectionate expressions associated with their degree of intimacy, passion, and commitment?"</p> <p>7. "Is understanding of</p>	<p>Verbal communication and modification were positively related. Satisfaction was unrelated to understanding of partner's affectionate expressions and to modification of them but was associated with verbal expression. Ratings of intimacy, passion, and commitment were correlated with verbal communication about affection and with modification of affectionate expressions (the latter for men only) but not with understanding of a partner's affectionate expressions.</p>	<p>These findings illustrate some associations between affectionate behavior and relational quality, as AET would suggest.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
114 Salazar, Khandelwal, and Castillo (2022)	<p>partner's affectionate expressions positively associated with degrees of intimacy, passion, and commitment of both individuals?"</p> <p>8. "Is the extent to which individuals modify their own affectionate expressions based on their partners' preference positively associated with their own degree of intimacy, passion, and commitment?" (pp. 9–11)</p> <p>1. "Received affection from grandmothers (i.e., love and esteem, caring, memories and humor, and celebratory) is positively related to grandchildren's reports of their dietary behaviors."</p> <p>2. "Received affection from grandmothers (i.e., love and esteem, caring, memories and humor, and celebratory) is positively related to grandchildren's reports of their exercise behaviors."</p> <p>3. "Received affection from grandmothers (i.e., love and esteem, caring, memories and humor, and celebratory) is inversely related to grandchildren's reports of their substance abuse behaviors."</p> <p>4. "Received affection from grandmothers (i.e., love and esteem, caring, memories and humor, and celebratory) is positively related to grandchildren's reports of their sleep habit behaviors." (pp. 4–5)</p>	<p>Love and esteem affection was positively related with sleep and negatively related with exercise. Memories and humor affection and celebratory affection were positively related to diet and to exercise.</p>	<p>Sleep, exercise, and diet all have implications for health and wellness, and these findings illustrate significant associations with some forms of affection in the grandparental relationship, in support of AET's claims.</p>
115 Spiegelman (2017)	<p>1. "Reception of affection is inversely related to depression in the workplace."</p> <p>2. "Reception of affection is inversely related to stress in the workplace."</p> <p>3. "Reception of affection is directly related to job satisfaction in the workplace."</p> <p>4. "Trait experience of affection is directly related to receptions of affection in the workplace."</p> <p>5. "There is an inverse relationship between introversion and reception of affection in the workplace."</p> <p>6. "There is a direct relationship between self-esteem and reception of affection in the workplace."</p> <p>7. "Receiving affection in the workplace influences perceptions." (pp. 26–28)</p>	<p>Depression was negatively related to verbal but not nonverbal affection. Stress was negatively related to verbal and nonverbal affection, and job satisfaction was positively related to both. Receipt of verbal and nonverbal affection was positively related to trait affection, self-esteem, and workplace perceptions and negatively related to introversion.</p>	<p>These findings illustrate predicted associations between affectionate communication and wellness in the workplace context.</p>
116 Strasser (2008)	<p>1. "There will be a significant difference between father and son mean scores on affectionate communication, satisfaction,</p>	<p>Fathers scored higher than sons on affectionate communication,</p>	<p>AET provides that affectionate communication can contribute to</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
117 Tiwari (2022)	<p>solidarity, and overall satisfaction."</p> <p>2. "More specifically G2 [generation 2] (sons) participants will report higher levels of affectionate communication, communication satisfaction, solidarity and overall relational satisfaction than G1 [generation 1] (fathers) participants."</p> <p>3. "What is the relationship between G1 and G2 affectionate communication, communication satisfaction, solidarity and overall relational satisfaction scores?" (pp. 16–17)</p> <p>1. "Customer affection (AFE) is positively associated with customer retention (RET)."</p> <p>2. "Customer trust (TRU) has a significant mediating effect between customer affection (AFE) and customer retention (RET)."</p> <p>3. "Customer trust (TRU) and customer satisfaction (SAT) [have] a significant mediating effect between customer affection (AFE) and customer retention (RET)."</p> <p>4. "Customer trust (TRU), customer satisfaction (SAT), and customer loyalty (LOY) have a significant mediating effect between customer affection (AFE) and customer retention (RET)." (pp. 5–8)</p>	<p>communication satisfaction, solidarity and overall relational satisfaction. Affection was significantly correlated with the other outcomes.</p> <p>In banks, customer affection and customer retention are positively related. Trust, satisfaction, and loyalty mediate this relationship.</p>	<p>reproductive success, which is more relevant for parents → children than for children → parents, so the theory would have predicted that fathers score higher than sons on affectionate communication, as these results indicate.</p> <p>AET does not specifically address affection in the context of instrumental relationships, such as customers have with banks. Nonetheless, these findings illustrate the basic principle that affection is a valued experience that is associated with relationship stability, even in transactional relationships.</p>
118 Toth, Floyd, Ventura, and Zenzola (2024)	<p>1. "Controlling for baseline values, daily hugging is inversely correlated to IL-1b [interleukin 1 beta]."</p> <p>2. "Controlling for baseline values, daily hugging is inversely correlated to IL-6 [interleukin 6]."</p> <p>3. "Controlling for baseline values, daily hugging is inversely correlated to IL-8 [interleukin 8]."</p> <p>4. "Controlling for baseline values, daily hugging is inversely correlated to TNF-a [tumor necrosis factor alpha]." (pp. 12–13)</p>	<p>In a failed replication of an earlier study, none of the predictions were supported; daily hugging had no association with any of the proinflammatory cytokines.</p>	<p>These nonsignificant results are counter to AET's assertion that affectionate behavior (hugging, in this instance) has immunosupportive effects.</p>
119 Trask, Horstman, and Hesse (2020)	<p>1. "Intense affection is related to relational satisfaction, closeness, and commitment."</p> <p>2. "Withheld affection is related to relational satisfaction, closeness, and commitment."</p> <p>3. "FWBRs [friends-with-benefits relationships] and CSFs [cross-sex friendships] withhold affection more than RRs [romantic relationships]."</p> <p>4. "FWBRs use more intensified affection than RRs and CSFs."</p> <p>5. "Intensified affection in FWBRs is a stronger predictor [of</p>	<p>Intensified affection related to relational health (satisfaction, closeness, and commitment) for RRs only; withheld affection related to relational health for FWBRs and RRs. FWBRs and CSFs withheld affection more than RRs. FWBRs used more intensified affection than RRs and CSFs. Withheld but not intensified affection was</p>	<p>AET provides that insincere or deceptive forms of affection (including affection that is intensified or withheld) can be used strategically, including to initiate sexual activity, and these results suggest that such uses are more prominent in overtly sexual relationships such as FWBRs.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
120	Vannier et al. (2017)	<p>relational satisfaction, closeness, and commitment than in RRs and CSFs." 6. "Withheld affection in FWBRs is a stronger predictor [of] relational satisfaction, closeness, and commitment than in RRs and CSFs." (pp. 626–628)</p> <p>1. "On days when sexual activity occurred (1) same-day physical affection would be positively associated with increased same-day sexual satisfaction, relationship satisfaction, sexual functioning, and decreased pain intensity; and (2) previous-day physical affection would be positively associated with next-day sexual satisfaction, relationship satisfaction, sexual functioning, and decreased pain intensity." (p. 2023)</p>	<p>a stronger predictor of relational health in FWBRs than in RRs and CSFs.</p> <p>When hugging/kissing, but not cuddling, increased, relationship satisfaction, sexual satisfaction, and sexual functioning increased. Hugging/kissing, but not cuddling, on days before sexual activity was positively related to relationship satisfaction, sexual satisfaction, and sexual functioning on the day of sexual activity.</p>	<p>AET explains that affectionate communication contributes to reproductive success, in part by contributing to satisfaction in reproductive relationships, and these findings are consistent with that prediction.</p>
121	van Raalte (2018)	<p>1. "In exclusive romantic relationships, affectionate communication with a partner is positively associated with (a) cuddle satisfaction, (b) sexual satisfaction, and (c) perceived benefits of pillow talk."</p> <p>2. "Trait affection is positively associated with (a) cuddle satisfaction, (b) sexual satisfaction, and (c) perceived benefits of pillow talk."</p> <p>3. "Do people who receive too much, too little, or the perfect amount of affection differ in their scores for (a) cuddle satisfaction, (b) sexual satisfaction, and (c) perceived benefits of pillow talk?" (pp. 5–7)</p>	<p>Affectionate communication with a partner and trait affection were both positively associated with cuddle satisfaction, sexual satisfaction, and perceived benefits of pillow talk. The highest cuddle satisfaction, sexual satisfaction, and perceived benefits of pillow talk were reported by people who received the optimal amount of affection.</p>	<p>AET specifies that affectionate communication contributes to relationship quality and that receiving too much or too little affection is aversive, and these findings support those claims.</p>
122	van Raalte, Stein, and Mongeau (2016)	<p>This study did not propose discrete predictions but aimed to conceptually and operationally define affectionate sexual communication.</p>	<p>Sexual affection positively predicted communication satisfaction and sexual satisfaction; verbal affection predicted relationship satisfaction.</p>	<p>AET explains that affectionate communication contributes to reproductive success, in part by contributing to satisfaction in reproductive relationships, and these findings are consistent with that prediction.</p>
123	van Raalte, Burke, DeGroot, and Melow (2023)	<p>1. "How do parents experience feeling touched out after the birth of their child?"</p> <p>2. How do parents describe changes in affection (if any) after the birth of their child?" (pp. 53–54)</p>	<p>Among new parents, 56% reported feeling fully or somewhat "touched out," meaning they were receiving more affectionate touch than they desired. After the birth of their child, 41% of parents reported a decrease in affectionate</p>	<p>On one hand, AET suggests that affection in parent-child relationships serves survival and reproductive motives; on the other hand, AET also suggests that people (including parents) can receive too little or too much affection. These</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions	
124	van Raalte and Floyd (2021a)	<ol style="list-style-type: none"> 1. "Controlling for baseline values, daily hugging is inversely correlated to IL-1b [interleukin 1 beta]." 2. "Controlling for baseline values, daily hugging is inversely correlated to IL-6 [interleukin 6]." 3. "Controlling for baseline values, daily hugging is inversely correlated to IL-8 [interleukin 8]." 4. "Controlling for baseline values, daily hugging is inversely correlated to TNF-a [tumor necrosis factor alpha]." (p. 492) 	<p>communication. A further 52% reported no change in frequency, but many reported changes in the forms of affection.</p> <p>Daily hugging was inversely related to IL-1b and TNF-a, both proinflammatory cytokines.</p>	<p>A finding speak to that apparent tension in the parental relationship.</p> <p>AET provides that affection supports health in part by supporting immunocompetence, and these findings illustrate that claim.</p>
125	van Raalte and Floyd (2021b)	<ol style="list-style-type: none"> 1. "Does relationship satisfaction moderate the association between affectionate communication and (a) trust and (b) closeness?" 2. "Does relationship satisfaction moderate the association between affectionate communication and (a) stress and (b) depression?" 3. "Individuals in dissatisfying relationships report greater affection deprivation as compared to individuals in satisfying relationships." 4. "Individuals in dissatisfying relationships report fewer affectionate behaviors with their romantic partner as compared to individuals in satisfying relationships." 5. "Which forms of affection are more prevalent in dissatisfied relationships?" (pp. 20–21) 	<p>Relationship satisfaction moderated the association between affectionate communication and stress, but not trust, closeness, or depression. Individuals in dissatisfying relationships reported greater affection deprivation and fewer affectionate behaviors. In dissatisfying relationships, supportive affection was more common than verbal and nonverbal affection.</p>	<p>AET predicts that affectionate communication contributes to relationship satisfaction, but it does not imply that dissatisfying relationships are not affectionate. These data illuminate some ways in which affection operates in dissatisfying pairs.</p>
126	van Raalte & Floyd (2024)	<ol style="list-style-type: none"> 1. "How [are] cuddling needs (i.e., too little, too much, and just right amounts of cuddling) curvilinearly related to relationship quality?" (p. 1) 	<p>Participants reported the lowest relationship satisfaction and closeness when they received too little cuddling and too much cuddling, compared to when their cuddling needs were met.</p>	<p>These findings illustrate AET's claim that inadequate and excessive affection are both aversive.</p>
127	van Raalte, Floyd et al. (2021a)	<ol style="list-style-type: none"> 1. "How do recipients perceive unwanted affection is expressed?" 2. "How do receivers of unwanted affection react to such expressions?" 3. "Perceived negativity of a recalled unwanted affection event is associated with greater stress and anxiety." (pp. 526–528) 	<p>Unwanted affection is expressed verbally, nonverbally, and through undifferentiated means. Receivers reported reacting through explicitly rejecting the expression, reducing contact with the sender, and ignoring the</p>	<p>AET provides that affectionate expressions can be unwelcome and that individuals react negatively to such expressions, and these findings illustrate that claim.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
128 van Raalte, Floyd et al. (2021b)	<p>1. "Individuals in the treatment group report higher relational satisfaction (1), higher investment (2), higher commitment (3), and lower quality of alternatives (4) than individuals in the comparison and control groups."</p> <p>2. "Do the comparison and control groups differ in their reports of relational satisfaction (1), investments (2), commitment (3), and quality of alternatives (4)?" (pp. 65–66)</p>	<p>expression. Perceived negativity of a recalled unwanted affection event was positively associated with cognitive anxiety, somatic anxiety, and stress.</p> <p>Treatment group participants, who spent increased time cuddling, reported higher relational satisfaction and lower quality of alternatives than comparison and control participants, the latter of whom did not differ on any of the dependent measures.</p>	<p>These findings exemplify AET's prediction that increasing affection improves relationships (with respect to satisfaction and quality of alternatives).</p>
129 Vasquez et al. (2024)	<p>1. "There will be a positive relationship between an individual's perceived positive interaction and relationship satisfaction such that individuals sending greater levels of affectionate communication to their partner will report higher levels of relationship satisfaction."</p> <p>2. "There will be a positive relationship between perception of a partner's positive interaction and relationship satisfaction such that individuals receiving greater levels of affectionate communication from their partner will report higher levels of relationship satisfaction."</p> <p>3. "There will be an indirect effect of an individual's perceived positive interaction on relationship satisfaction via commitment, such that greater affectionate communication sent will increase partner commitment, and partner commitment will be positively related to relationship satisfaction."</p> <p>4. "There will be an indirect effect of perception of a partner's positive interaction on relationship satisfaction via commitment, such that greater affectionate communication received will increase partner commitment, and partner commitment will be positively related to relationship satisfaction."</p> <p>5. "There will be an indirect effect of an individual's perceived positive interaction on relationship satisfaction via relationship quality, such that greater affectionate communication sent will increase relationship quality, and relationship</p>	<p>Sent and received affection were both related to higher satisfaction and the associations were mediated by commitment, quality, and their combination.</p>	<p>These findings illustrate several ways in which affectionate communication is associated with higher-quality relationships, as AET predicts.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
130 Veluscek (2018)	<p>quality will be positively related to relationship satisfaction."</p> <p>6. "There will be an indirect effect of perception of a partner's positive interaction on relationship satisfaction via relationship quality, such that greater affectionate communication received will increase relationship quality, and relationship quality will be positively related to relationship satisfaction."</p> <p>7. "There will be a serial indirect effect of an individual's perceived positive interaction on relationship satisfaction via commitment and relationship quality, such that greater affectionate communication sent will increase commitment, which will increase relationship quality, which will be positively related to relationship satisfaction."</p> <p>8. "There will be a serial indirect effect of perception of a partner's positive interaction on relationship satisfaction via commitment and relationship quality, such that greater affectionate communication received will increase commitment, which will increase relationship quality, which will be positively related to relationship satisfaction." (pp. 5-7)</p> <p>1. "Individuals who write affectionately to their partners during deployment will report higher levels of relational satisfaction than (a) individuals who write about innocuous topics during deployment and (b) individuals who do not write during deployment."</p> <p>2. "Individuals who write affectionately to their partners during deployment will report lower levels of stress than (a) individuals who write about innocuous topics during deployment and (b) individuals who do not write during deployment."</p> <p>3. "Individuals who write affectionately to their partners during deployment will report higher levels of affectionate communication given than (a) individuals who write about innocuous topics during deployment and (b) individuals who do not write during deployment."</p> <p>4. "What are the associations between affectionate communication during military deployment and (a) secure, (b) dismissive, (c) preoccupied, and (d) fearful</p>	<p>Compared to comparison and control participants, those who wrote affectionately to partner during deployment reported greater relational satisfaction and expressed affection, but not lower stress. Affectionate communication was negatively associated with dismissive, preoccupied, and fearful attachment styles and unassociated with the secure style.</p>	<p>The experimental findings illustrate how enacting affectionate communication contributes to increased relationship satisfaction, which AET predicts.</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴ attachment styles?" (pp. 24–31)	Key Findings	Contributions	
131	Waldbuesser and van Raalte (2023)	<ol style="list-style-type: none"> 1. "Teacher affection positively predicts student engagement." 2. "Does teacher affection predict student engagement differently than teacher immediacy?" (p. 8) 	<p>Teacher affection positively related to student engagement and was a stronger predictor of engagement than was teacher immediacy.</p>	<p>AET does not explicitly speak to affectionate communication in instrumental relationships, such as between teachers and students, but it does claim that affectionate behavior is valued, and these findings indicate that students respond positively to affectionate communication.</p>
132	Woo (2022)	<ol style="list-style-type: none"> 1. "Participants in the treatment group self-report a greater decrease in (a) affection deprivation, (b) depression, (c) loneliness, and (d) stress than the comparison and control groups." 2. "Participants in the treatment group self-report a greater increase in marital satisfaction than participants in the comparison and control groups." 3. "To what extent will the mental health benefits from an affectionate communication intervention persist after (a) two weeks and/or (b) six weeks?" 4. "To what extent will the marital satisfaction benefits from an affectionate communication intervention persist after (a) two weeks and/or (b) six weeks?" (pp. 21–23) 	<p>In this study, an increase-affection treatment had no effect on study outcomes.</p>	<p>AET predicts that affectionate communication improves well-being; the present findings did not demonstrate this.</p>
133	Worthington (2018)	<ol style="list-style-type: none"> 1. "The level of affectionate communication is higher in full siblings than in half/step-siblings." 2. "Men and women will differ in their level of affectionate communication." 3. "Do full siblings feel affection and verbally communicate affection more than half/step-siblings?" 4. Do full and half/step-siblings differ in their forms (verbal, direct nonverbal, indirect nonverbal) of affection display?" 5. "Affectionate communication and emotional closeness will be positively correlated." 6. "There is a correlation between affectionate feelings and verbal affectionate communication." 7. "There is a negative correlation between affectionate feelings and sibling competitiveness." (pp. 21–31) 	<p>Affectionate communication was higher in full sibling relationships than in half- or step-sibling relationships. Men and women did not differ in their level of affectionate communication. Affectionate communication was correlated with closeness, verbal affectionate communication, and competitiveness. Sibling relationship types differed only in indirect nonverbal affection.</p>	<p>AET claims that affectionate communication contributes to reproductive success, which is affected by genetic relatedness. The present finding that full-biological siblings are more affectionate than half-biological siblings and step-siblings illustrates this claim.</p>
134	Wu et al. (2019)	<ol style="list-style-type: none"> 1. "The frequency of affection words and expressions will increase from 1960 to 2008 in both American 	<p>Books written in English and Chinese, and digitized by Google</p>	<p>AET does not speak specifically to cultural differences or factors in</p>

Author(s)/Year	Affection-Related RQs/Hs ⁴	Key Findings	Contributions
135 Zhong and Dailey (2017)	<p>and Chinese books."</p> <p>2. "This trend can be accounted for by a corresponding increase in expressions of individualistic cultural values." (p. 3)</p> <p>1. "Attachment avoidance [is] negatively associated with expressions of DAMs [deceptive affectionate messages]."</p> <p>2. "Attachment anxiety [is] positively related to expressions of DAMs."</p> <p>3. "RISC [relational-interdependent self-construal] [is] positively associated with expression of DAMs."</p> <p>4. "[Do] self-benefiting and relationship-benefiting goals moderate the association between attachment and expression of DAMs?"</p> <p>5. "[Does] relationship quality, such as intimacy moderate the association [between attachment and expression of DAMs]?"</p> <p>6. "[Do] romantic couples in different relationship development stages (i.e., casual dating, serious dating, engaged and married) vary in their tendency to express DAMs?"</p> <p>7. "[Does] the proportion of affective communication that was deceptive vary across relationship stages?" (pp. 5–7)</p>	<p>Ngram Viewer, were searched for references to verbal and nonverbal affectionate behavior. Both increased in frequency over time, and both were positively correlated with the frequency of first-person pronouns (considered an expression of individualism).</p> <p>Attachment avoidance and attachment anxiety were both positively correlated with expression of DAMs. RISC was negatively correlated with expression of DAMs. Self-benefiting motives moderated the relationship between DAMs and avoidance, anxiety, and RISC. Intimacy moderated the relationship of DAMs and avoidance and anxiety. The tendency to express DAMs did not vary as a function of relationship stage, but casually dating individuals had a higher percentage of deceptive affection than married and seriously dating individuals</p>	<p>the expression of affectionate communication.</p> <p>Although AET provides that individuals can engage in DAMs, the theory does not specify whether the use of DAMs is systematically correlated with either positive or negative outcomes for individuals or their relationships; these findings add clarity to those points.</p>

RESULTS

Research Question 1: Applications of AET

The first research question asked how AET has been applied since its introduction in 2001. This question calls for explorations into what lines of inquiry are prevalent in this research, who is conducting AET research, who comprises the samples, and what methods dominate this program of study.

What Lines of Inquiry Are Prevalent?

An articulation of the hypotheses and research questions represented in the AET literature (**Table 1**) reveals that the vast majority of AET-based research addresses one or more of the following questions. Each is discussed below with exemplars.

How is affectionate communication associated with relationship quality and stability?

Largely on the basis of AET's third postulate, 37 percent of the reviewed studies documented positive associations between the frequency of affectionate communication within a relationship and the quality and stability of that relationship. Relationship satisfaction is significantly associated with affectionate communication

frequency in a range of relationships (Curran & Yoshimura, 2016; Floyd et al., 2009; Hesse et al., 2014; Punyanunt-Carter, 2004). Two experiments have even shown that increasing affectionate behavior in romantic relationships led to an increase in relationship satisfaction (Floyd et al., 2009; van Raalte et al., 2021b). Beyond satisfaction, research has shown that people who are highly affectionate (as a trait) are more likely to be in a significant romantic relationship than those who are less affectionate (Floyd, 2002; Floyd, Hess et al., 2005b). Mansson (2014b) and Pauley et al. (2014) also demonstrated that affectionate communication frequency is positively associated with the use of relationship maintenance strategies (see also Myers et al., 2011).

How is affectionate communication related to mental health?

AET's third postulate provides that affectionate communication contributes to the health of individuals as well as their relationships, and 22 percent of the reviewed studies examined this claim in the context of mental well-being. Most, but not all, have used trait affectionate communication—the extent to which an individual typically expresses and receives affectionate messages—as the predictor variable, and multiple mental health indices have shown favorable associations with this tendency. For example, affectionate communication shows positive associations with general mental wellness (Mansson, 2014a; but see Schrodt et al., 2007) and self-esteem (Floyd, Hess et al., 2005b). Conversely, affectionate behavior is inversely associated with depressive symptoms (Floyd, 2002), loneliness (Mansson, 2013b), and alexithymia (Hesse & Floyd, 2008). Similarly, a lack of adequate affection is positively associated with the likelihood of having been diagnosed with an anxiety and/or mood disorder (Floyd, 2014).

How is affectionate communication related to physical health and physiological function?

AET is explicit in its claim that affectionate communication contributes to physical health and wellness, in particular by enhancing immunocompetence and the body's ability to ameliorate stress. A total of 19 percent of the reviewed studies focused on physical health and physiological function. Some studies in this line of inquiry have explored how affectionate communication buffers physiological reactivity prior to exposure to stressful events (Pauley et al., 2015) and accelerates physiological recovery after exposure to stressors (Floyd et al., 2007d). Other studies have explored how an individual's trait level of affectionate communication correlates with markers of immunocompetence, such as immunoglobulins, lymphocytes, and natural killer cells (Floyd et al., 2018). Still other research has examined the physical health detriments associated with inadequate affection, including physical pain, disordered sleep, and secondary immune disorders (Floyd, 2014, 2016).

Under what conditions do people communicate affection deceptively, and with what effects?

The theory's second postulate makes room for the possibility that individuals can engage in affectionate communication deceptively by 1) expressing affection that they do not feel, and 2) feeling affection that they do not express. A total of 13 percent of the reviewed studies focused on deceptive affection. The frequency and effects of this phenomenon have been extensively studied by Horan (2013; Horan & Booth-Butterfield, 2011, 2013; Horan et al., 2015) and others (e.g., Trask et al., 2020).

How do relationship types vary in their frequency and forms of affectionate communication?

Much research on affectionate communication capitalizes operationally on Floyd and Morman's (1998) tripartite model, which differentiates three forms of affectionate expression. Some affectionate messages are verbal, meaning they are conveyed through the use of written, spoken, or signed words (such as the sentiments "I love you" and "I care about you"). Others are nonverbal, expressed through behavioral gestures that are readily interpreted as affectionate in the community in which they are enacted (in North America, these include kissing, hugging, and handholding). Finally, some affectionate messages comprise acts of social support, in which the affectionate sentiment is covert rather than overt. For instance, a man may help his brother fix a roof or move residences and both may recognize that the favor is an expression of one brother's love for the other, even if that interpretation is not readily apparent to third-party observers.

Building on these conceptual distinctions, 10 percent of the reviewed studies grounded in AET have addressed the questions of how particular types of relationships vary in their frequency of affectionate behaviors and in the forms of affection they favor. For example, Floyd and Morr (2003) studied affectionate communication in the marital/sibling/sibling-in-law system. Using triadic data, Floyd and Morr confirmed the hypothesis that affectionate behavior is most frequent in the marital subsystem, less frequent in the sibling subsystem, and least frequent in the sibling-in-law subsystem. Similarly, Punyanunt-Carter (2004) compared married and dating couples but found no difference in their frequencies of affectionate behavior (for additional examples, see Mansson & Booth-Butterfield, 2011; Morman & Floyd, 2002). Other research has verified that some forms of affectionate behavior are favored over others within relationships. Floyd (2001b), for instance, found that men express affection to their sons more often through the use of supportive behaviors than through verbal or nonverbal expressions.

What influences an individual's tendency to be affectionate?

AET's initial claim is that the capacity for affectionate behavior is inborn. This implies that the tendency to be affectionate is at least partly heritable. This claim raises at least two empirical questions, each of which has been the focus of 8 percent of the reviewed studies: 1) How much of the variance in the tendency to be affectionate is heritable (Floyd et al., 2020)? and 2) which individual genes account for that variance (Floyd & Denes, 2015)? Other studies have correlated trait affectionate communication with neurological characteristics (Lewis et al., 2011) and with baseline levels of hormones such as testosterone (Hesse et al., 2018a) and cortisol (Floyd, 2006b). Individual characteristics, such as gender (Morman & Floyd, 1999), age (Floyd & Morman, 2000), and attachment style (Hesse & Trask, 2014), have also been investigated as predictors of trait affectionate communication.

How do cultures vary in their frequency and forms of affectionate communication?

AET does not speak specifically to cultural variation in affectionate communication, yet 4 percent of the reviewed studies have examined how race/ethnicity, nationality, and/or cultural dimensions (G. Hofstede & G. J. Hofstede, 2010) account for variation in affectionate behavior. Vaquera and Kao (2005), for instance, demonstrated both intra-racial and inter-racial variation in public, private, and intimate displays of affection. Mansson (Mansson et al., 2016; Mansson & Sigurðardóttir, 2017) compared trait affectionate communication scores in the United States, Russia, Slovakia, Denmark, Iceland, and Poland and documented not only nation-level differences in average affection scores but also correlations with cultural individualism, femininity, uncertainty avoidance, and power distance.

Who Has Conducted Research Using AET?

AET takes an explicitly post-positivist approach to explaining affectionate communication. Unsurprisingly, a large majority of scholars who have conducted research using AET identify as post-positivist social scientists. Understandably, more studies grounded in AET have been authored or co-authored by Floyd than by any other author. Many other authors of AET-based studies have been Floyd's former students, including Justin Boren, Lou Clark, Ben Custer, Kristin Davis, Doug Deiss, Dana Dinsmore, Kaylin Duncan, Jen Eden, Lisa Farinelli, Mark Generous, Annegret Hannawa, Mark Haynes, Colin Hesse, Jeff Judd, Angela La Valley, Jeannette Maré, Bree McEwan, Alan Mikkelson, Mary Claire Morr-Serewicz, Perry Pauley, Corey Pavlich, Colter Ray, Sarah Riforgiate, James Stein, Melissa Tafoya, Will Toth, Lisa van Raalte (Dahlgren), Alice Veksler, Alessandro Ventura, Jason Wilson, Nathan Woo, and Nicole Zenzola.

Notably, however, some of the most prolific individual AET scholars are colleagues in the communication discipline but not former Floyd students. These include Quinten Bernhold, Amanda Denes, Sean Horan, Daniel Mansson, and Mark Morman, who collectively are authors or co-authors on 45 of the 135 (or 33 percent) papers included in the state-of-the-art review. Other communication colleagues who have contributed to the AET literature include Margaret Bennett, Melanie Booth-Butterfield, Haley Kranstuber Horstman, Robert Lewis, Andy Merolla, Scott Myers, Narissra Punyanunt-Carter, Emily Raucher, Leslie Ramos Salazar, Jack Sargent, Sara Trask, Anita Vangelisti, Alaina Veluscek, among others, along with their individual students and collaborators. AET has also informed multiple undergraduate theses (Darr, 2013; Fellers, 2020; Sholey, 2019), master's theses (Fuller, 2016; Gaule, 2015; Mederos, 2015; Muhlestein, 2020; Redlick, 2015; Spiegelman, 2017; Worthington, 2018), and doctoral dissertations (Bennett, 2019; Kranjčić, 2016; Manning, 2022).

In addition to the discipline of communication, AET has served as the basis for research in economics (Tiwari, 2022); psychology (Duflos et al., 2024; Wu et al., 2019); nonverbal behavior (Farley et al., 2013); education (Byrnes & Myers, 2010); sleep health (Cikara, 2019); and sexual health (Vannier et al., 2017). When considering the disciplinary affiliation of a paper's lead author, six specific disciplines are represented by the research included in the review, with communication, psychology/psychiatry, and family studies/human development accounting for the largest shares (**Figure 2**).

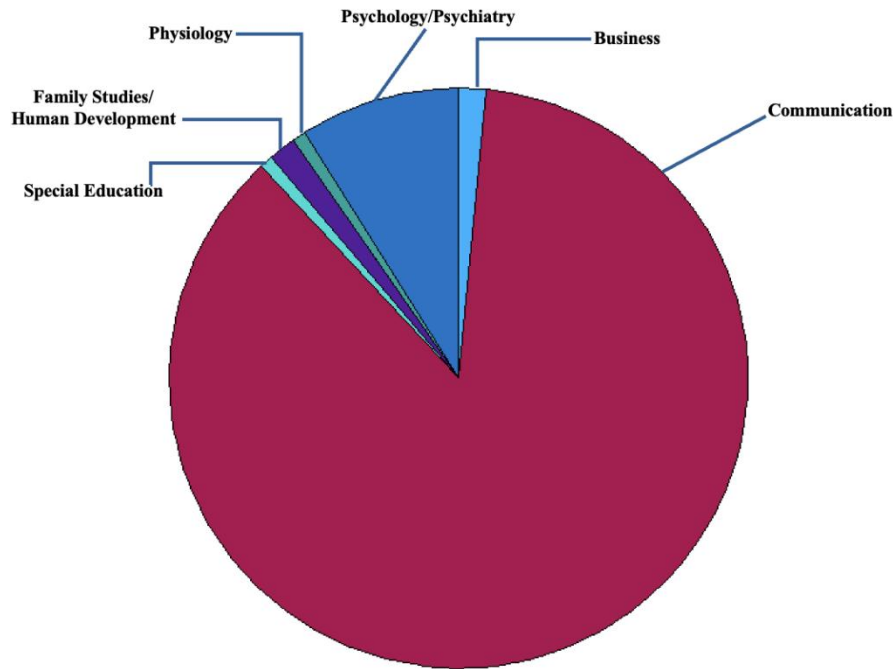


Figure 2. Lead Author's Disciplinary Affiliation for Studies Included in State-of-the-art Review

A full list of AET authors—and numbers of papers for each author—appears in supplemental **Table 2**⁶ The heavy frequency of post-positivist scholars conducting research using AET is consistent with the theory's fundamental assumptions. Nonetheless, it is possible that interpretive and/or critical treatments of AET's claims could be generative.

Who Comprises the Samples in AET-based Research?

Sample sizes ranged from 10 to 4,785, with an average of 415.12 participants ($SD = 616.15$). The median sample size was 229, however, suggesting that the overall average of 415 was skewed by a small number of projects that had large N's. The interquartile range of the sample sizes was calculated ($IQR = 361.5$) and was used to identify major outliers. Any sample size exceeding 1,014 was considered an outlier. Ten such studies were included in the review, and when those studies were temporarily suppressed, the average sample size of the remaining studies was 281.92 ($SD = 236.66$), which is likely a more accurate sample size estimate of the literature in AET. When the outliers were suppressed, the median sample size was 220 but the modal N was 52. The distribution was positively skewed (skewness = 1.22) and platykurtic (kurtosis = .775).

Altogether, participants ranged in age from 11 to 96 years. The average age in the samples included in the review ranged from 18.29 to 72.11 years ($M = 28.62$ years, $SD = 11.03$). Out of 135 studies, six used exclusively male samples and two used exclusively female samples; all the rest were of mixed gender distribution.

As is true with affectionate communication research in general (see Floyd et al., 2023), the empirical research on AET has focused heavily on U.S. American samples. Nonetheless, slightly more than two-thirds of participants in all AET research come from non-U.S. countries. As **Figure 3** depicts, AET participants during the 2001–2024 period covered by the review hailed from 48 nations in total, representing six continents.

⁶ The supplemental Table S2 can be downloaded at https://osf.io/g26t7/?view_only=72828f10e74f4603987358d6c7f2251f

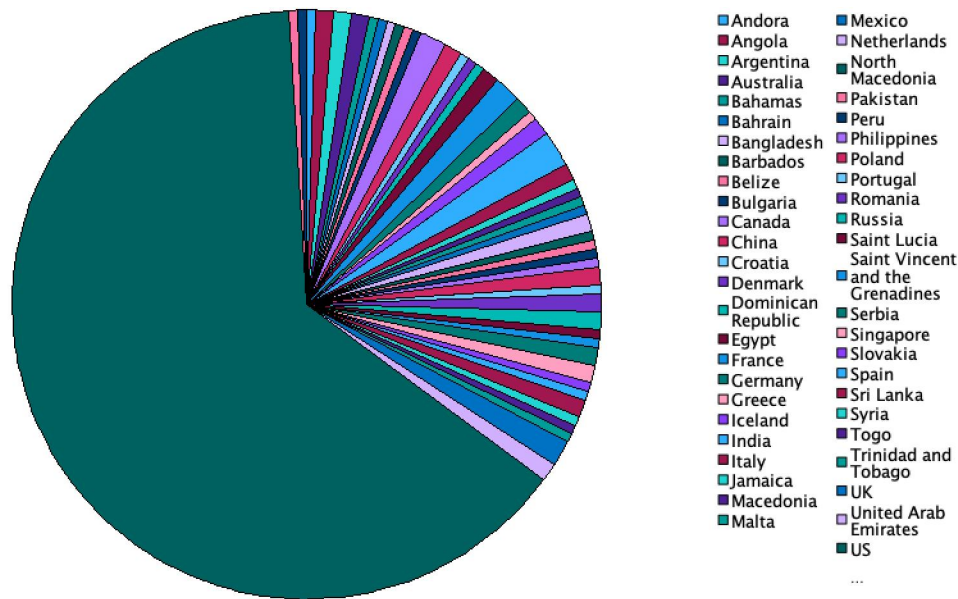


Figure 3. Distribution of Countries Represented in AET Research Included in State-of-the-art Review

Which Research Methods Are Used in AET-based Research?

Methodologically, the use of self-report measures dominates, with approximately 88 percent of studies employing paper questionnaires, (Mansson, 2013a) online questionnaires (Bennett & Denes, 2019), and/or daily diary reports (Austin, 2021). Other self-report measures, such as in-depth interviews (Manning, 2022) and focus groups (Muhlestein, 2020), are also observed, albeit less frequently. Multiple other measures are also reflected in the AET research, however, these include:

1. Behavioral experiments with random assignment to conditions (Woo, 2022)
2. Multiple physiological measures (assessments of hormones, immunocompetence markers, metabolic markers and other blood chemistries, cardiovascular measures, etc.; Pauley et al., 2015)
3. Direct measurements of the anatomy (e.g., digit length assessments; Floyd, 2010)
4. Genotyping (Floyd & Denes, 2015)
5. Acoustic analyses of the voice (Farley et al., 2013)
6. Assessment of handedness (Floyd & Mikkelsen, 2004)
7. Physical exams (Vannier et al., 2017)
8. Brain imaging (e.g., electroencephalography; Lewis et al., 2011)
9. Bibliometric analysis (Wu et al., 2019)
10. Direct observation of behavior (McCullough, 2014).

Research Question 2: Evidentiary Basis for AET

The empirical support for most of AET's postulates and subpostulates is robust. As this section details notes, both research explicitly designed to test AET and research based on other theoretical models have offered a solid evidentiary basis for the majority of AET's claims. Certain proposals—such as subpostulate 3a, which claims that affectionate communication promotes the establishment and maintenance of significant pair bonds—have been extensively examined, drawing support from nearly two dozen published studies. Others—such as subpostulate 3b, which argues that being affectionate represents oneself as a viable romantic partner and fit potential parent—have received considerably less empirical attention thus far. Given that AET is still comparatively young in the theoretical landscape of the communication field, variance in the robustness of empirical support for its various claims is not necessarily surprising. No individual study could test the totality of the theory's claims simultaneously, so empirical support has thus far followed from the individual claims deemed by researchers as most worthy of scrutiny. It must be noted explicitly that the subsequent review of empirical support is illustrative rather than exhaustive.

Postulate 1: The Need and Capacity for Affection Are Inborn

AET's initial claim is that humans' need for affection and capacity to experience and share it are innate rather than environmentally acquired. This claim, which follows from AET's roots in theories of natural selection and evolutionary psychology, implies that humans are prepared at birth to need affection, to feel it, and to express it. Evidence in support of this contention is observed in ontogenetic, neural, and genetic lines of research.

Ontogenetic Evidence: Based on AET's claim, one would expect to observe affectionate behavior early in ontogenesis, before sociocultural effects are likely. Beginning in the mid-20th Century, researchers have documented that affectionate behavior—including reciprocated cuddling and reaching for attachment objects—begins to emerge early in infancy (Banham, 1950). Prescott (1976) reviewed studies of both humans and other primates cataloguing the emergence of affectionate behavior early in development and also presented evidence from 49 cultures that high levels of physical affection in infants are inversely associated with both petty crime (theft) and serious crime (killing, torturing, or mutilation of one's enemies) in those cultures.

Neurological Evidence: If the need and capacity for affection are innate, then it is likely that neural mechanisms exist for love and affection. As de Boer and colleagues (2012) explained, research into the neural networks responsible for affection has identified both endocrine factors and patterns of brain activity associated with at least the feelings of affection and love, if not also their expression. Endocrine factors point to the activity of specific hormones. For instance, activity of the hypothalamic hormone oxytocin has been implicated in both the experience and expression of affection (Feldman, 2012; Floyd et al., 2010), although questions remain about the nature of its role in facilitating bonding and attachment (see Carter, 2022). Other candidate endocrine factors studied for their connections to love and affection are dopamine (Young & Wang, 2004), serotonin (Marazziti, Akiskal, Rossi, and Cassano, 1999), cortisol (Marazziti & Canale, 2004), testosterone (Hesse et al., 2018a), and nerve growth factor (Emanuele et al., 2006). With respect to brain mapping, fMRI studies, typically focused on the experiences of romantic and/or maternal love (Bartels & Zeki, 2000, 2004; Xu et al., 2011), have documented increased activity in the anterior cingulate cortex, nucleus accumbens, hypothalamus, hippocampus, and medial insula, areas that are significant components of the brain's reward system, with high concentrations of dopamine. Using EEG rather than fMRI, Lewis et al. (2011) also reported that individuals high in trait affectionate communication demonstrate greater relative electrical activity in the left anterior cortex—which mediates approach tendencies—than in the right anterior cortex—which mediates avoidance tendencies (Davidson, 1998).

Genetic Evidence: Finally, if the need and capacity for affection are innate rather than environmentally acquired, then the tendency to be affectionate is likely to have at least a partly genetic basis. One implication of this claim is that communicators' trait level of affectionate communication is at least partially heritable. Thus far, only Floyd et al. (2020) have examined the question of heritability for affectionate communication, specifically. Using a sample of monozygotic and dizygotic twins who reported on their trait levels of expressed affection and received affection, Floyd and colleagues determined that approximately 45 percent of the variance in expressed affection and approximately 21 percent of the variance in received affection is heritable. These main effects are in line with AET's suggestion that humans' capacity for affection is innate. Importantly, however, Floyd et al. documented a non-hypothesized interaction with biological sex, such that heritability estimates for expressed and received affection were significant for women ($a_2 = .48$ and $.42$, respectively), but both estimates were zero for men. This initial finding suggests that the tendency to express and receive affection is partly heritable for women but is wholly accounted for by either unique or shared environmental characteristics for men.

As evidence relevant to Postulate 1, both the main effects and the interaction effects with sex are limited in that they measured the tendency to express and receive affectionate messages, rather than the need or capacity for doing so (or for experiencing affection as an emotion). As such, they do not directly confirm or disconfirm the postulate but instead speak only to its implication that such tendencies are heritable. That said, the interaction with biological sex was unexpected, and Floyd et al. (2020) speculated that if Taylor et al.'s (2000) contention is correct, women benefit more from the sharing of affection than do men, suggesting that affectionate tendencies have evolved to be more heritable in women.

Accompanying the question of heritability is the question of whether any specific genotypes are reliably associated with the tendency to be affectionate. Limited evidence exists from the study of love and pair-bonding behavior. Emanuele, Brondino, Pesenti, Re, and Geroldi (2007) explored variations on the transporter and receptor genes for serotonin (5-HTT and 5-HT2A) and dopamine (DRD2, DRD4) as they relate to adults' love styles, or patterns of how people feel and express their love for others (Eros, Ludus, Storge, Pragma, Mania, and Agape). The researchers documented significant associations between the Eros love style (characterized by intense emotional attachments based on physical attraction) and the TaqI variant on DRD2, and between the Mania love style (characterized by a dependent, possessive romantic attachment) and the C516T 5HT2A polymorphism. Relatedly, Walum et al. (2008) reported that pair-bonding behavior (partner bonding, marital status, and perceived marital problems) and marital quality in men are associated with the rs3 repeat polymorphism on the

vasopressin gene AVPR1A. Similarly, limited evidence exists from the study of affectionate behavior, specifically. Floyd and Denes (2015) hypothesized that variation on the rs53576 polymorphism of the oxytocin receptor gene OXTR interacts with attachment security to predict trait expressed affection. They found, in particular, that the GG genotype—as opposed to the AG or AA genotypes—exhibited a stronger influence on expressed affection for those low in attachment security than for those high in attachment security.

Are the need and capacity for affection inborn? Evidence in support of the claim includes the observations that affectionate behavior emerges early in human development; that patterns of both hormonal and neural activity correlate with experiences of love and/or affection; that the tendency to be affectionate is partly heritable (albeit for women only); and that loving, affectionate, and pair-bonding behaviors also show tentative associations with particular genotypes. As alluded to above, these lines of evidence do not directly test the postulate itself, only hypotheses theoretically derived from it, and much evidence comes from lines of research on love, rather than on affection, specifically.

Postulate 2: Affectionate Feelings and Affectionate Expressions Are Distinct Experiences that Often, but Need Not, Covary

AET's second claim differentiates the emotional and behavioral dimensions of affection by noting that, although they often covary (with people communicating affection when they feel it), these dimensions are independent and potentially isomorphic. This postulate makes theoretical room for what has come to be known as deceptive affection, which can take two forms. First, communicators can feel affection without expressing it; second, they can express affection without feeling it. The emotional and behavioral components of affection, although they frequently co-occur, are separable, in other words.

Initial support for the postulate came from unpublished data described in Floyd (2006a, 2019), in which 1,032 college students from around the United States were asked if they had ever expressed affection when they did not actually feel it. Eighty-six percent of participants responded affirmatively, and more than half the participants in that group reported having done so at least once within the previous month. In just over 70 percent of the reported incidents, the deceptive expression of affection was directed at either a platonic friend or a current or former romantic partner.

Those initial data suggested that the practice of expressing unfeeling affection is relatively common. Subsequently, Horan has taken the lead in explicating how and when communicators engage in deceptive affection. According to Horan, deceptive affection can be enacted in two separate but related ways, based on the observation that experiencing affection and expressing affection are independent. First, people can communicate deceptive affectionate messages (DAMs), which are verbal or nonverbal expressions of affection that are not actually experienced by the sender at the time (Horan & Booth-Butterfield, 2013). Second, individuals can withhold affection by declining to convey affectionate feelings they actually are experiencing (Carton & Horan, 2014).

Frequencies and Forms of Deceptive Affection

Following Floyd's (2006a, 2019) studies, two diary studies examined the frequencies of DAMs and withheld affection in romantic relationships. Horan and Booth-Butterfield (2013) found that, among 57 undergraduate participants, six reported no use of DAMs in one week, but those who did use DAMs reported an average of 3.3 instances over the seven-day period. Verbal behaviors and nonverbal behaviors were approximately equally common. The most commonly articulated nonverbal behavior was the use of touch (such as kissing, hugging, and putting one's arm around another), but kinesics (including smiling or playful physical teasing) and proxemics (sitting or lying close to another) were also reported.

Carton and Horan (2014) later recruited adults to keep a week-long diary reporting their use of withheld affection. Participants reported withholding affection an average of 5.67 times during the seven-day study. When asked what they communicated in lieu of affection, participants were most likely to say they expressed a less-intense form of affection than they felt (such as touching the arm instead of kissing); that they communicated nonchalance (such as asking cool or aloof); or that they took no action at all.

Deceptive affection has been studied primarily in romantic relationships, but it is observed in other relationships as well. Trask and colleagues (2020), for instance, documented the use of deceptive affection in various other-sex relationship types. Intensified affection (involving messages that connote more affection than is actually felt) was reported between friends-with-benefits more than between platonic friends or romantic partners. Similarly, friends and friends-with-benefits were more likely to report deintensified affection (messages that convey less affection than is actually felt) than were romantic partners. Zhong and Dailey (2017) also reported higher instances of DAMs among casual daters than among seriously dating, engaged, or married couples.

Individual and Relational Correlates of Deceptive Affection

Insofar as DAMs and withheld affection represent forms of deception, one might expect their outcomes and correlates to be primarily negative. Horan has documented, however, that they have both positive and negative effects on individuals and their relationships. In the case of relationship maintenance, for example, the use of DAMs is negatively related to positivity and assurances, and (along with withholding affection) is positively related to control (Horan, 2013), yet it has no association with relationship satisfaction or commitment (Gillen & Horan, 2013). Similarly, Trask et al. (2020) reported that relational health—measured as a composite of commitment, satisfaction, and closeness—was negatively associated with deintensified affection for friends-with-benefits but positively associated with both intensified and deintensified affection for romantic partners.

Surprisingly, engaging in deceptive affection does not appear to have stress-inducing effects, the way that enacting other forms of deception often does (Horan & Booth-Butterfield, 2011). In some contexts, in fact, deceptive affection appears to be stress-alleviating. In two studies, Horan and Parker-Raley investigated the use of DAMs and withheld affection among medical staff working in a hospital's emergency department (Horan et al., 2015; Parker-Raley & Horan, 2014). Their studies suggested staff risk compassion fatigue and burnout if they communicate authentic affection all the time, so enacting DAMs and withholding affection can be strategies for avoiding such outcomes.

Postulate 3: Affectionate Communication Is Adaptive with Respect to Human Viability and Fertility

Perhaps the most important claim of AET is that affectionate communication serves the superordinate evolutionary imperatives of viability (survival) and fertility (reproductive success). The mechanisms through which it does so are articulated in multiple subpostulates.

Subpostulate 3a: Affectionate Communication Serves the Superordinate Motivation for Viability by Promoting the Establishment and Maintenance of Significant Human Pair Bonds. In contradistinction to some species, humans have evolved a substantial need to belong (Baumeister & Leary, 1995), and a formidable body of evidence links affectionate behavior to the formation, maintenance, and quality of romantic and familial relationships.

Relationship Formation and Maintenance

Trait levels of affectionate communication are associated with success in forming and maintaining relationships. Both Floyd (2002) and Floyd, Hess et al. (2005b) reported that people who are highly affectionate (as a trait) are more likely to be involved in an ongoing romantic relationship than are their less-affectionate counterparts. Moreover, among participants in both studies who were in a romantic relationship, trait affection levels were positively associated with their relationship satisfaction.

Other research has identified connections between affectionate communication and strategies for relationship maintenance. Using dyadic data from 143 heterosexual married couples, Pauley et al. (2014) found that individuals' trait affection levels were positively associated with their own and their spouses' enactment of five relationship maintenance strategies: 1) positivity, 2) openness, 3) use of assurances, 4) network support (i.e., relying on people known to both partners), and 5) task completion. Husbands' trait affection levels were also related to their wives' positivity, use of assurances, and network support, whereas wives' trait affection levels were associated with their husbands' use of assurances. The authors also found that the relative effects of trait affection on the enactment of these maintenance strategies were not significantly different between husbands and wives. Mansson (2014b) reported substantially similar findings with respect to grandchildren's use of relational maintenance behaviors with grandparents, and Myers et al. (2011) reported that affectionate behaviors serve as relational maintenance strategies in and of themselves in adult sibling relationships.

Relationship Satisfaction

Evidence suggests that affectionate communication contributes not only to the formation and maintenance of close relationships, but also to individuals' satisfaction with those relationships. For example, affectionate communication has significant associations with relationship satisfaction in marriages (Punyanunt-Carter, 2004), cohabiting romantic relationships (Floyd et al., 2009), families (Hesse et al., 2014), parent-child relationships (Morman & Floyd, 1999), sibling and sibling-in-law relationships (Floyd & Morr, 2003), friendships (Floyd & Voloudakis, 1999), caregiver relationships (Parsons, Cox, & Kimboko, 1989), small-group relationships (Anderson & Martin, 1995), and even among first-time acquaintances (Floyd & Burgoon, 1999).

Although most such research has been cross-sectional, two experiments have manipulated affectionate behavior to document its effects on satisfaction. Floyd et al. (2009) recruited 52 healthy adults in marital or cohabiting relationships, instructing half to kiss more frequently than normal for six-weeks. As predicted, those in the treatment group reported a significant increase in satisfaction, whereas satisfaction was unchanged over time

in a control group (see also Welsh et al., 2005). van Raalte (2017) later replicated the Floyd et al. procedure with 80 adults, instructing treatment participants to cuddle more often than normal. Like Floyd and colleagues, van Raalte also observed a significant increase in satisfaction as a result of increased cuddling.

Sexual Interaction and Satisfaction

Recent research has examined associations between affectionate communication, sexual behavior, and sexual satisfaction. Debrot et al. (2017) speculated that the association between the frequency of sexual interaction and general well-being could be partially accounted for by the frequency of affectionate communication in romantic couples. In four studies, Debrot and colleagues found that the frequency of affectionate touch was positively correlated with the frequency of sexual behavior; that affectionate touch mediated the relationships between sexual frequency and both life satisfaction and positive emotion; that sexual activity predicted heightened positive affection; and that when couples engaged in sexual or erotic encounters at one point, they were more likely to report experiencing affection four hours later.

Additional research has examined the effects of affectionate behavior exchanged during the post-sex period, specifically. In two studies, Muise, Giang, and Impett (2014) established a significant association between the duration of post-sex affection and relationship satisfaction, a correlation that was mediated by sexual satisfaction. They also found that the perceived quality of post-sex affection was directly associated with both sexual and relational satisfaction (see also Denes, 2012; Denes et al., 2019).

Subpostulate 3b: Affectionate Communication Serves the Superordinate Motivation for Fertility by Representing to Potential Mating Partners that the Communicator is a Viable Partner and a Fit Potential Parent. This claim proposes that being a high-affection communicator is a trait that is valued for pair bonding and for parenting. Other factors being equal, highly affectionate individuals are evaluated as better prospects for long-term relationships and as better equipped to nurture offspring, according to the claim. Thus far, no empirical tests of the claim have been conducted.

Subpostulate 3c: The Relationship between Affectionate Communication and Reproductive Opportunity Is Stronger for Women's Mate Selections than for Men's. As noted above, this claim follows from Trivers's (1972) theory of differential parental investment, which provides that, in sexually reproducing species, the sex that invests the most resources in the reproductive process is more judicious about choosing sexual partners (and prospective parents for offspring). Subpostulate 3c applies this argument to the mate value of affectionate communication, proposing that women place more weight than men, on average, on the trait of affection of a potential partner. Thus far, no empirical tests of this claim have been reported.

Subpostulate 3d: The Experiences of Feeling, Communicating, and Receiving Affection Covary with Immunocompetence and Regulatory Physiological Pathways for Stress and Reward. This argument links affection—in both its emotional and behavioral elements—to health, via the pathways of immunocompetence, stress, and reward. Unlike the previous two subpostulates, this claim has been widely adjudicated in research focused on both physical and mental health.

Physical Health: Research on the physical correlates and consequences of affectionate communication has focused on multiple health parameters. Evidence is reviewed in this section for stress management; immunocompetence; metabolic activity; and risk of illness.

Stress management: According to research, one of the most direct pathways through which affectionate behavior influences physical wellness is via its effects on stress management. The affection–stress association has been studied in at least three ways. First, trait-level affectionate behavior covaries with the body's ability to react to stressful events. Trait affectionate communication predicts both increases in the stress hormone cortisol during acute stress (Floyd et al., 2007a) and 24-hour cortisol variation (Floyd, 2006b; Floyd & Riforgiate, 2008), suggesting that high-affection communicators are advantaged in their ability to mount a defense to stressors. Sumioka and colleagues (2013) even found that using a huggable communication medium decreases the body's cortisol levels; see also Koshar and Knowles (2020).

Second, several studies have demonstrated a stress-buffering effect (see Cohen & Wills, 1985) whereby sharing affectionate behavior prior to exposure to a stressor modulates physiological stress reactivity. This is advantageous to health because exaggerated stress reactivity can predict long-term health impairments (Lovallo, 2015). For instance, research by Grewen and colleagues (2003, 2005) has shown that sharing affectionate behavior with a spouse prior to exposure to a stressor influences cardiovascular and hormonal reactivity to that stressor, a finding later replicated by Pauley et al. (2015) in a study of dating partners and platonic friends (see also Berretz et al., 2022). Dreisoerner et al. (2021) likewise showed a stress-buffering effect of self-soothing touch and the receipt of an embrace, and Cohen et al. (2015) found that hugging even buffers individuals against susceptibility to upper respiratory infection. Other research has shown similar salutary effects of handholding

(Coan, Schaefer, and Davidson, 2006; Moon & Cho, 2001). Importantly, Floyd et al. (2010) demonstrated that the buffering benefits of affectionate communication do not require the affectionate behavior to precede the stressor immediately; that study found that even high trait affection levels buffered hormonal stress responses.

Finally, sharing affection after exposure to a stressor accelerates the body's recovery to physiological baseline, which is beneficial because prolonged stress activation is detrimental to wellness (Brosschot, Gerin, & Thayer, 2006). Floyd et al. (2007a) induced stress in healthy young adults using a series of standard laboratory stressors, then randomly assigned participants to three post-stress conditions: 1) writing an affectionate letter to a loved one; 2) thinking about a loved one; and 3) doing nothing. For those who put their affectionate feelings into words in the form of writing, cortisol—elevated by the stressors—returned to baseline levels significantly more quickly than for those in the other groups.

Immunocompetence: Some evidence indicates that sharing affectionate behavior covaries with the competence of the immune system. Although there is no single standard marker of immunocompetence (Farnè et al., 1994), research often assesses levels of particular markers, such as immunoglobulins, B cells, or T cells, or the cytotoxicity of particular cells, such as natural killer (NK) cells. Some studies also measure antibody levels, such as antibodies for the Epstein-Barr virus (EBV), or the antibody response to the introduction of specific antigens.

In two early experiments, Kimata (2003) induced adults with either allergic rhinitis or atopic dermatitis to kiss their romantic partner for 30 minutes while alone in a room. Kimata found that kissing significantly reduced the skin wheal responses to dust mites and cedar pollen, and significantly reduced plasma levels of nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT-3), and neurotrophin-4 (NT-4), whereas the same effects of kissing were not observed in non-patient controls. In a later study, Kimata (2006) repeated the kissing induction using patients with mild atopic eczema and allergic rhinitis and found that it inhibited allergen-specific production of immunoglobulin E (IgE). Kimata concluded that for allergic patients, kissing can alleviate some allergic symptoms, a finding supportive of a positive association between affectionate behavior and immunocompetence (see also Liccardi et al., 2007).

Three additional studies have examined associations between trait-level affectionate communication and immunocompetence. Floyd et al. (2014b) measured trait expressed affection in a group of healthy volunteers and assessed natural killer (NK) cells, which are lymphocytes (a subtype of white blood cell) that attack virally infected cells and impede tumor formation. Trait affection was unrelated to the number of NK cells but was directly related to NK cell cytotoxicity, a marker of the efficacy in killing target cells. That study also reported that trait affection was linearly related to circulating levels of immunoglobulin M (IgM). In a later study, Floyd et al. (2018) looked specifically at socially supportive affection. They replicated the significant positive association with IgM and also found supportive affection to be positively related to immunoglobulin G (IgG), as well as three T cells (CD3+, CD4+, CD8+) and one B cell (CD19+).

Both studies suggest that affectionate communication is associated with higher immunocompetence (at least as reflected by those specific markers). However, Floyd et al. (2014a) concluded the opposite when measuring antibody levels to latent Epstein-Barr virus (EBV). With EBV, lower levels of antibodies index higher immunocompetence, and Floyd and colleagues found that trait affection was directly (rather than inversely) related to EBV antibody levels. In contrast to Floyd et al. (2014b) and Floyd et al. (2018), this finding suggests an inverse association between affectionate communication and immunocompetence.

Metabolic activity: Metabolism encompasses chemical reactions in the body aimed at converting food into energy and building blocks and eliminating waste (Salway, 2017). Two metabolic markers that have received attention in affectionate communication research are blood lipids and blood glucose. Lipids are fat-soluble organic molecules present in the cell membranes of all body tissues that provide energy to cells; maintain cellular growth, maintenance, and repair; and contribute to the production of steroid hormones, among other tasks (Welsh & Prentice-Carver, 2021). Lipids occur in multiple forms, one of the most widely known of which is cholesterol. Cholesterol is a sterol most commonly produced in the liver and measured in the form of total cholesterol, an aggregate of high-density lipoproteins (HDL), low-density lipoproteins (LDL), and very-low-density lipoproteins (VLDL).

Three studies have directly examined the association between affectionate behavior and lipids. Theorizing that because stress elevates cholesterol and because communicating affection in close relationships reduces stress, Floyd, Mikkelsen et al. (2007b) hypothesized that communicating affection would reduce lipid levels. In two five-week trials, healthy participants wrote affectionate letters to close friends, relatives, and/or romantic partners for 20 minutes on three separate occasions. Compared to controls who wrote about innocuous topics, treatment participants experienced significant reductions in total serum cholesterol. In a later study, Floyd et al. (2009) measured total cholesterol in healthy adults who were cohabiting with a romantic partner. Participants in that study were asked to kiss their partners more frequently than usual during a six-week trial. Absent the effects of

multiple potential control variables, the researchers found that treatment participants experienced a decrease in total cholesterol that was not experienced by controls. A later study by Floyd (2023) replicated the significant inverse association between kissing and cholesterol using a large, nationally representative sample (see also Floyd et al., 2017).

Blood glucose, also known as blood sugar concentration, indexes the amount of glucose present in the bloodstream at any given time. Glucose is an important source of energy for cellular and muscle function and for cerebral metabolism (Huang et al., 1980). Blood glucose can be measured in the form of fasting glucose, a reflection of the level of glucose in the blood at the time of measurement (independent of the effects of recent food consumption), and in the form of glycated hemoglobin (HbA1c), a non-fasting measure of a person's average blood glucose concentration over the preceding three months.

Like lipids, blood glucose is also elevated in response to stressors (Netterstrøm, Danborg, & Olesen, 1988). Working from the arguments that affectionate communication reduces stress and stress elevates blood glucose, Floyd, Hesse et al. (2007c) predicted and found an inverse association between trait expressed affection and glycated hemoglobin ($\beta = -.85$). Floyd et al. (2017) later reported a negative association ($r = -.27$) between fasting glucose and social inclusion.

Notably, Stanton, Campbell, and Loving (2014) argued that feeling love can produce eustress, a positive or euphoric form of stress (Selye, 1956) usually accompanied by positive affect but whose physiological effects (such as increased blood pressure or cortisol) mimic those of negative stress (*or distress*). In their study, participants who were asked to visualize a romantic partner and who reported high positive affect after doing so experienced a significant increase in glucose. Stanton et al. suggested that when visualizing a romantic partner generates positive affect, that experience induces eustress, causing a corresponding increase in blood glucose.

It might appear that the findings of Floyd and colleagues are at odds with those of Stanton et al., but that is not necessarily the case. The apparent difference lies in the distinction between negative and positive forms of stress (i.e., between distress and eustress), as each experience can increase blood glucose. Neither study induced affectionate contact, however, so it is unknown how such interpersonal contact—such as in the form of touch, verbal interaction, etc.—would influence blood glucose levels, if at all.

Illness risk: To the extent that affectionate communication has salutary associations with health, it is logical to conclude that lacking adequate affection is associated with an increased risk of illness. Floyd (2014) examined that prediction in a study of affection deprivation, the discrepancy between a person's desired and perceived levels of affectionate behavior. Among other hypotheses, Floyd predicted that people's reports of affection deprivation are positively associated with their likelihood of having been diagnosed with a secondary immune disorder. Whereas primary immune disorders—such as hyper-IgE syndrome, herpes simplex encephalitis, and Kostmann syndrome—are inherited genetically (thus unlikely to be influenced by social behaviors such as affectionate communication), secondary immune disorders—such as multiple myeloma and AIDS—are acquired via exposure to environmental conditions (including conditions of the social environment). Given affectionate communication's association with immunocompetence, Floyd predicted that deprivation of affection would correlate positively with the number of diagnosed secondary immune disorders, and that prediction was supported.

Mental Health

Research on the mental correlates and consequences of affectionate communication has also focused on multiple parameters. Evidence is reviewed in this section for anxiety and depressive symptoms, psychological stress, and loneliness.

Anxiety and depressive symptoms

Two of the most commonly diagnosed categories of psychopathology are mood disorders (a category including major depressive disorder) and anxiety disorders (a category including generalized anxiety disorder; Steel et al., 2014), and large populations also suffer from subclinical levels of both conditions (see, e.g., van Zoonen et al., 2015). Although depression and anxiety are highly comorbid (Ter Meulen et al., 2021), they are not the same experience. Depressive symptoms include sadness and hopelessness, listlessness and pessimism, low self-esteem, and a diminished ability to concentrate, whereas anxiety is marked by frequent, excessive, and often long-lasting worry that feels uncontrollable and interferes with daily functioning (Henderson et al., 1998). Kerver et al. (1992) reported that affection received from fathers during upbringing was inversely associated with participants' likelihood of suffering major depressive disorder at the time of the study (although it was not significantly predictive of depression symptoms experienced one year later), and Jorm and colleagues (2003) found that affection received from both mothers and fathers during upbringing was significantly associated with lower anxiety and less susceptibility to depression, as well as lower neuroticism (see also Maselko et al., 2011).

These findings collectively suggest that receiving affectionate behavior, particularly from parents, may serve a protective role against anxious and depressive symptoms. Floyd, Hess et al. (2005b) later demonstrated correlations between depressive symptoms and one's trait level of affectionate communication. Conversely, a lack of affection appears to be directly associated with vulnerability to anxiety and depressive symptoms. Floyd (2014) measured adults' levels of affection deprivation, indexing the discrepancy between one's desired and received levels of affectionate behavior, proposing that affection deprivation is directly associated with the number of mood disorders and/or anxiety disorders with which participants have been formally diagnosed. The prediction was supported.

Psychological stress

Mental stress embodies feelings of nervousness or worry, a perceived lack of control over one's circumstances, the perception that one's challenges are insurmountable, an inability to cope with stressful situations, and feelings of distress over unexpected events (Cohen Kamarck, & Mermelstein, 1983). Affectionate communication is inversely correlated with psychological stress (Floyd, Hess et al., 2005b), and at least two experiments have demonstrated that increasing affectionate behavior results in reduced psychological stress. Floyd et al. (2009) instructed participants in their treatment condition to kiss their romantic partner more frequently for the duration of the study, finding that treatment participants experienced a significant decrease in stress that was not observed in the control group. Similarly, Coan et al. (2006) subjected married women to the threat of an electric shock while undergoing functional magnetic resonance imaging (fMRI). During the fMRI procedure, participants were either holding their husband's hand, the hand of an anonymous male researcher, or no hand at all. Using neural imaging to operationalize stress, the researchers found that holding a spouse's hand produced the greatest stress-protective effect, followed by holding a stranger's hand, and finally by holding no hand at all.

Loneliness

Loneliness represents a discrepancy between one's desired and perceived levels of social engagement (Cacioppo & Patrick, 2008). Although not recognized as a psychopathology, it is comorbid with multiple mental disorders, including social anxiety (Chen et al., 2023), major depressive disorder (Van As et al., 2022), disordered eating (Levine, 2012), pathological gambling (McQuade & Gill, 2012), and substance abuse disorders (Åkerlind & Hörnquist, 1992), as well as with suicide ideation (Stravynski & Boyer, 2001).

If humans require social connection, if loneliness reflects a lack of such connection, and if affectionate behavior contributes to feelings of connection, and then it is logical to deduce that affectionate communication is negatively associated with loneliness. Mansson (2014a) explored that hypothesis in the grandparent-grandchild relationship and found that showing affection through caring, memories and humor, and celebration was negatively correlated with grandparents' experiences of loneliness. In a separate study, Mansson (2013b) found that grandchildren's loneliness was negatively related to the affection they received from their grandparents in the form of celebration and memories and humor. Downs and Javidi (1990) established that even communicating for the purpose of showing affection is negatively related to loneliness. Conversely, a lack of affectionate communication is positively associated with loneliness. Green and Wildermuth (1993) found that loneliness in female undergraduates was predicted by a lack of expressed affection, whereas loneliness in male undergraduates was predicted by a lack of expressed inclusion. Floyd (2014) similarly reported a moderate association ($\beta = .45$) between loneliness and the perception that one is lacking affectionate communication.

Postulate 4: Humans Vary in Their Optimal Tolerances for Affection and Affectionate Behavior

Despite being grounded in the principles of natural selection and evolutionary psychology, AET explicitly recognizes individual differences in both the minimum amounts of emotional affection and affectionate behavior that people require for optimal functioning and the maximum amounts they can abide before feeling overwhelmed. AET refers to the range between these thresholds as optimal tolerances, and although the theory does not identify the predictors of individuals' optimal tolerances, it does specify that affectionate communication contributes to viability and reproductive success only within those ranges.

Subpostulate 4a: The Experience, Expression, and Receipt of Affection Contribute to Immunocompetence and Regulatory Pathways for Reward and Stress Management When They Occur within an Individual's Range of Optimal Tolerance. This subpostulate serves primarily to clarify subpostulate 3d, discussed above, by articulating an important boundary condition for reward and stress-management benefits of affectionate communication. The general implication of subpostulate 4a is that exchanging less affection than one needs or desires—the condition known as affection deprivation (described previously)—or more affection than one needs or desires—a condition known as excessive affection—are both aversive experiences. Whereas it may be intuitive to conclude that, if affectionate behavior is beneficial, receiving too little is problematic, this subpostulate clarifies that affectionate communication has a nonlinear association with well-being, in that wellness declines once affectionate behavior

becomes excessive. Support for this subpostulate is inferred from many of the empirical studies described subsequently in relation to postulate 5.

Subpostulate 4b: Affectionate Communication to One's Biological Offspring Enhances Reproductive Success by Contributing to the Health and Viability of the Offspring, so Long as the Affectionate Behavior Falls within the Receivers' Range of Optimal Tolerance. Some studies based on AET have examined the affectionate communication that parents convey to their children, based on the argument that 1) receiving affection is beneficial for children, and 2) what is beneficial for children directly supports the reproductive success of biological parents. In two studies, for instance, Floyd and Morman (2001) hypothesized that men express more affectionate communication to their biological sons than to non-biological sons (i.e., stepsons and adoptive sons). That prediction acknowledges that only biological sons have the ability to contribute to participants' reproductive success, so if affectionate communication is a resource that supports sons' health, increasing their own likelihood to survive to sexual maturity, fathers benefit more than they would by investing their affectionate resources in non-genetic offspring. Floyd and Morman found the hypothesized differences even after controlling for the effects of differences in closeness, relationship satisfaction, relational involvement, and the fathers' and sons' ages.

It seems straightforward enough that biological children can contribute to parents' reproductive success in ways that nonbiological children cannot, yet two further investigations acknowledged that not all biological offspring have equal baseline probabilities of producing children of their own, thus furthering their parents' genetic lines. Floyd (2001b) reasoned that, other things being equal, homosexual men are less likely to reproduce genetically than are bisexual men (and that claim was later empirically verified; Song & Zhang, 2024). On the basis of that claim, Floyd hypothesized and found that homosexual men receive less affectionate communication from their fathers than do bisexual men, net of the effects of how many siblings the sons had. Floyd, Sargent, and Di Corcia (2004) expanded on Floyd's original findings documenting affection received from fathers of men self-identified as heterosexual, homosexual, or bisexual. Barring individual impediments, men of all sexual orientations have the ability to reproduce genetically, of course, but they differ systematically in their likelihood of doing so. Heterosexual men produce more children over the course of their lifetimes than do bisexual men, who similarly outpace homosexual men (Song & Zhang, 2024). From the perspective of reproductive success, it behooves parents to invest their resources in the children offering the greatest opportunity for return, leading Floyd et al. to predict that heterosexual men receive more affection from their fathers than do homosexual or bisexual men. That prediction was confirmed, and Floyd and colleagues also found that when fathers were unsure of their sons' sexual orientation, they offered less affection to heterosexual sons but more affection to homosexual or bisexual sons.

Postulate 5: Conveying or Receiving Affectionate Behaviors that Violate One's Range of Optimal Tolerance Initiates Noticeable Sympathetic Nervous System Arousal and Further Initiates a Cognitive Appraisal of the Same

The final postulate frames both affection deprivation and excessive affection as aversive, albeit for different reasons (as the subpostulates explain). It is argued that individuals notice when their thresholds for affectionate communication are violated and that they are motivated to appraise the implications of such violations.

Subpostulate 5a: A Violation of the Minimum Threshold in the Range of Optimal Tolerance Constitutes a Threat to Viability.

A violation of one's minimum threshold means that one receives less affectionate communication than is desired, a condition known as affection deprivation. Affection deprivation can occur in the context of a single relationship, wherein more affection is desired from a particular relational partner than is received, yet it can also be experienced as a broader trait, wherein one feels affection deprived writ large. In the logic of AET, affection deprivation is aversive because it signals a lack of supportive relationships that can offer protection, material resources, and other contributions to survival.

Among U.S. Americans, affection deprivation is similarly common for women and men and is unassociated with education and racial or ethnic background but is inversely associated with age and is higher for single adults than for married or partnered adults (Floyd & Morman, 2022). Early evidence that affection deprivation is aversive was offered by Floyd (2014, 2016), who found significant associations between trait affection deprivation and physical pain, sleep disturbances, depressive symptoms, number of diagnosed mood disorders, and number of diagnosed secondary immune disorders, among other problems.

Affection deprivation also has detrimental relational correlates. Hesse and Mikkelsen (2017) found that the more affection deprived people feel, the less satisfied they are in their romantic relationships and the less closeness they experience within those relationships. Hesse and Tian (2020) likewise found that affection deprivation covaried with marital quality and emotional intimacy for individuals as well as for their spouses, exhibiting both actor and partner effects.

Hesse, Mikkelson et al. (2021) later examined affection deprivation during the COVID-19 pandemic and found that it predicted increases in stress, loneliness, and depressive symptoms longitudinally. Other research has shown that affection deprivation is associated with attachment anxiety and the frequency of pornography use (Hesse & Floyd, 2019).

Subpostulate 5b: A Violation of the Maximum Threshold in the Range of Optimal Tolerance Initially Initiates a Physiological Stress Response that Covaries in Intensity with the Probability that the Violating Behavior Represents a Threat to One's Procreation Success.

That affection deprivation is aversive is relatively intuitive, given the pervasiveness of the need to belong. Nonetheless, AET also proposes that excessive affection is likewise aversive, insofar as it can be experienced as invasive or even as an attempt to induce greater relational intimacy than is desired. To the extent that one feels affection is invasive—such as in the case of sexual harassment—one may feel inhibited in the pursuit of healthy reproductive opportunity due to the need to expend energies dealing with unwanted affection. In three studies, Hesse and Mikkelson (2021) documented that receiving more affection from others than one desires is significantly associated with stress, depressive symptoms, anxious and avoidant attachment, loneliness, impaired self-esteem, and reduced life satisfaction. van Raalte et al. (2021a) likewise found that excessive affection correlated positively with psychological stress, somatic anxiety, and cognitive anxiety.

Although framed by AET in the context of reproductive opportunity, the detriments of excessive affection also appear to emerge in the parent-child relationship. Hesse et al. (2018b) reported that excessive affection received from parents was associated with impaired relational satisfaction, life satisfaction, and self-esteem for children. Angon, Mondal, and Das (2021) even suggested that excessive affection from parents is associated with detriments in children's intelligence and intellectual development.

AET proposes that affection deprivation and excessive affection are both aversive, but they are not necessarily equally, so Hesse, Floyd, and Mikkelson (2023) reasoned that the implicit viability threats associated with affection deprivation would be experienced as more aversive than the implicit threats to reproductive success associated with excessive affection, and they found that affection deprivation was indeed associated with worse detriments than excessive affection in the outcomes of loneliness, stress, physical pain, sleep quality, and the frequency of nightmares. Key findings for each postulate are summarized in **Table 2**.

Table 2. Key Findings by AET Postulate

	Postulate	Key Findings	Source(s)
1	The need and capacity for affection are inborn.	The tendency to communicate affection is highly heritable, at least for women. Particular genes are associated with a higher affectionate tendency. Affectionate behavior begins to develop in infancy. Neural networks exist for love and affection.	Floyd et al., 2020 Floyd and Denes, 2015 Banham, 1950; Prescott, 1976 Bartels and Zeki, 2000; de Boer et al., 2012; Lewis et al., 2011; Müller and Lindenburger, 2014 Carton and Horan, 2014; Gillen and Horan, 2013; Horan and Booth-Butterfield, 2011, 2013, 2019; Redlick and Vangelisti, 2018; Trask et al., 2019
2	Affectionate feelings and affectionate expression are distinct experiences that often, but need not, covary.	People engage in deceptive affection, expressing affection they do not feel or withholding affection they do feel.	Curran and Yoshimura, 2016; Dainton et al., 1994; Debrot et al., 2013; Faucier and Margolin, 2004; Fellers and Schrodtt, 2021; Floyd et al., 2019; Gullede et al., 2003; Horan and Booth-Butterfield, 2010; Jakubiak and Feeney, 2017; Kulibert et al., 2019; Mansson, 2013, 2014, 2022; Mansson et al., 2017; Morman & Floyd, 1999, 2002; Muise et al.,
3a	Affectionate communication serves the superordinate motivation for viability by promoting the establishment and maintenance of significant pair bonds.	Affectionate communication is significantly associated with relationship satisfaction and relationship maintenance.	Floyd et al., 2019; Gullede et al., 2003; Horan and Booth-Butterfield, 2010; Jakubiak and Feeney, 2017; Kulibert et al., 2019; Mansson, 2013, 2014, 2022; Mansson et al., 2017; Morman & Floyd, 1999, 2002; Muise et al.,

Postulate	Key Findings	Source(s)
3b	Affectionate communication serves the superordinate motivation for fertility by representing to potential mating partners that the communicator is a viable partner and a fit potential parent.	2014; Myers et al., 2011; Nicholson, 1984; Owen, 1987; Pauley et al., 2014; Punyanunt-Carter, 2004; van Raalte and Floyd, 2021; van Raalte et al., 2021; Vannier et al., 2017; Wagner et al., 2020
3c	The relationship between affectionate communication and reproductive opportunity is stronger for women's mate selections than for men's.	No direct evidence thus far. No direct evidence thus far.
3d	The experiences of feeling, communicating, and receiving affection covary with immunocompetence and regulatory physiological pathways for stress and reward.	Berretz et al., 2022; Cohen et al., 2015; Dreisoerner et al., 2021; Floyd, 2022, 2006b; Floyd et al., 2005, 2007a, 2007b, 2010; Floyd and Riforgiate, 2008; Holt-Lunstad et al., 2008; Koshar and Knowles, 2020; Moon and Cho, 2001; Pauley et al., 2015; Sumioka et al., 2013
	Affectionate communication significantly covaries with markers of immunocompetence.	Floyd et al., 2014, 2018; Kimata, 2003, 2006
	Affectionate behavior prompts the release of oxytocin.	Floyd et al., 2010; Grewen et al., 2005; Holt-Lunstad et al., 2008; Schneiderman et al., 2012; Seltzer et al., 2010
	Affectionate communication covaries with markers of metabolic health.	Floyd, 2023; Floyd et al., 2007, 2009, 2017; Matsunaga et al., 2009; Stanton et al., 2014
	Affectionate behavior covaries with cardiovascular health.	Floyd et al., 2007, 2014; Grewen et al., 2003, 2005; Holt-Lunstad et al., 2008; Light et al., 2005
	Affectionate communication is significantly related to general physical health.	Floyd, 2002; Floyd et al., 2005
4	Humans vary in their optimal tolerances for affection and affectionate behavior.	Chopik et al., 2014; Dillow et al., 2014; Floyd and Denes, 2015; Hesse & Trask, 2014; Wagner et al., 2020
4a	The experience, expression, and receipt of affection contribute to immunocompetence and regulatory pathways for reward and stress management when they occur within an individual's range of optimal tolerance.	See Postulate 3d
4b	Affectionate communication to one's biological offspring enhances reproductive success by contributing to the health and viability of the offspring, so long as the affectionate behavior falls within the receivers'	Parents express more affection to offspring with greater reproductive potential than to those with less reproductive potential. Bernhold and Giles, 2019; Floyd, 2001; Floyd and Morman, 2001; Floyd et al., 2004

	Postulate	Key Findings	Source(s)
5	range of optimal tolerance. Conveying or receiving affectionate behaviors that violate one's range of optimal tolerance initiates noticeable sympathetic nervous system arousal and further initiates a cognitive appraisal of the same.	See below	
5a	A violation of the minimum threshold in the range of optimal tolerance constitutes a threat to viability.	Affection deprivation is mentally and physically aversive.	Floyd, 2014, 2016; Floyd and Morman, 2022; Hesse and Mikkelsen, 2016; Hesse et al., 2021; Hesse and Tian, 2020; Prescott, 1979
5b	A violation of the maximum threshold in the range of optimal tolerance initially initiates a physiological stress response that covaries in intensity with the probability that the violating behavior represents a threat to one's procreation success.	Excessive affection is aversive.	Hesse et al., 2018; van Raalte et al., 2016
		Observing same-sex affection and initiating aversive psychological reactions. Affectionate expressions can constitute face-threatening acts.	Floyd, 2000; Floyd and Morman, 2000; O'Handley et al., 2017 Erbert and Floyd, 2004

STRENGTHS AND SHORTCOMINGS OF AET

This state-of-the-art review concludes with the identification and discussion of three strengths and three shortcomings of AET in its current form.

Strength: Empirical Support

As this review illustrates, AET has garnered robust empirical support. Although some postulates have yet to be subjected to testing, no postulate or subpostulate of AET has been empirically disproven. Floyd et al. (2014a) did show that affectionate communication is associated with impaired immunocompetence in the form of Epstein-Barr virus antibodies. This finding contradicted AET's claim that affectionate communication is immunosupportive. The authors pointed out in this study, however, that some affectionate behavior supports viral transmission (such as kissing), which likely accounted for the discrepant finding. To date, this is the only study to produce a significant negative association between affectionate communication and health.

Of course, effect sizes vary for studies testing AET's claims. A meta-analysis by Hesse, Floyd and colleagues (2021) examined specifically those claims related to affectionate behavior and health in 44 empirical reports and found significant heterogeneity, with individual effect sizes (r) ranging from .04 in a study of stress hormones (Ditzen et al., 2008) to .71 in a study of cardiovascular health (Grewen et al., 2005).

Strength: Higher-order Explanatory Mechanism

Prior to the articulation of AET, various other theories had been employed to explain and predict specific aspects of affection exchange, including attribution theory, politeness theory, interaction adaptation theory, and expectancy violations theory. Each succeeded in offering a proximal explanation for some aspect of affectionate communication, such as whether an affectionate behavior would be perceived as face-threatening or as an expectancy violation. Only AET was able to offer a higher-order, ultimate explanation for why humans communicate affection in the first place—an explanation from which the varied effects of affection exchange could be deduced. This is not a criticism of the proximal theories initially used to study affection, as none were created with that purpose in mind. Rather, it is an advantage of AET to be able to frame affectionate communication as an evolved human tendency that endures due to its contributions to viability and fertility, offering a higher-order explanatory mechanism generative of hypotheses that could not have been derived from other theories.

Strength: Parsimony

Ceteris paribus, parsimonious scientific theories are preferred over those that are overly complex or require the acceptance of multiple assumptions (Coelho Diniz-Filho, & Rangel, 2019). Epstein (1984) described the

parsimony principle as follows: "Where we have no reason to do otherwise and where two theories account for the same facts, we should prefer the one which is briefer, which makes assumptions with which we can easily dispense, which refers to observables, and which has the greatest possible generality" (p. 119). AET's explanatory framework is relatively straightforward and parsimonious, comprising only five major postulates. As Floyd (2006a) articulated, only three axioms underlie the theory, so readers are not forced to accept multiple assumptions when using the theory.

Shortcoming: Racial, Ethnic, and Cultural Differences in Affectionate Behavior

Substantial evidence exists that affectionate communication practices differ systematically as a function of race, ethnicity, and culture. Whereas affectionate behavior is observed cross-culturally (Jankowiak, Volsche, & Garcia, 2015; Sorokowska et al., 2023), both its frequencies and its forms (Bernhold & Giles, 2019; Mansson et al., 2016; Mansson & Sigurðardóttir, 2017; Watkins et al., 2019) vary among groups in ways that AET is not well equipped to explain. Given that the theory's axiomatic basis is rooted in the human motivations toward survival and reproduction, hypotheses about the frequencies, forms, and correlates of affectionate communication are deduced on the basis of affectionate behaviors' contributions to those motivations. That does not preclude AET from supporting hypotheses about environmental effects, *per se*. Using data from 37 countries, Floyd et al. (2024) found that affection deprivation is weakly associated with non-zoonotic parasite prevalence. Their argument, deduced from AET, predicted systematic differences in affection deprivation by nations, but on the basis of those nations' geographic locations rather than cultures. AET would be able to predict cultural differences *a priori* only to the extent that cultures themselves (or their corresponding geographies) have implications for viability or fertility.

Shortcoming: Harms to Health

As noted, many hypotheses derived from AET have predicted positive correlations between affectionate behavior and physical and mental wellness, if not direct effects of affectionate communication on health outcomes. Affectionate behavior is proposed to support immunocompetence and regulatory pathways for reward and stress, leading to the general proposition that affection is good for health. Nonetheless, some affectionate behaviors—such as mouth-to-mouth kissing and many sexual behaviors—facilitate exposure to bodily fluids that can result in the transmission of viral infections, including herpes simplex virus, hepatitis B, human papillomavirus, influenza, infectious mononucleosis, and HIV. Mouth-to-mouth kissing has even been known to facilitate the transmission of food allergies (Maloney, Chapman, & Sicherer, 2006) and drug allergies (Mancuso & Berdondini, 2006) between partners. AET admittedly gives these health risks of affectionate communication short shrift. Even as the theory points out that both excessive and deficient affection are detrimental to well-being, it does not explicitly address the direct risks of intimate contact for physical health.

Shortcoming: Explanatory Mechanisms for Mental Wellness

Whereas AET is somewhat specific about the explanatory mechanisms connecting affectionate behavior to physical health, its explication of the same for mental health is relatively lacking. With respect to mental health, virtually all hypotheses derived from AET imply a mediated pathway wherein affectionate behavior mitigates psychological stress, which then covaries with whichever index of mental wellness is being predicted. That mediated model is rarely tested directly—and of course, physical stress is often the target mental health outcome being measured anyway—further compounding this theoretical limitation.

Although AET is not explicit about the explanatory mechanisms connecting affectionate communication to mental wellness, at least one other option (besides stress) exists within the theory's current form. AET's third postulate provides that affectionate communication contributes to the formation and maintenance of significant pair bonds, and a formidable empirical literature confirms that affection covaries with relationship quality and success (see above). To the extent that personal relationships are functional and satisfying, interpersonal psychotherapy (IPT: Weissman, 2020) predicts that mental wellness is bolstered. IPT posits that most psychopathologies have their roots in dysfunctional relational patterns, so the therapy focuses on identifying and remedying relational shortcomings as a way to improve mental well-being, an approach that has demonstrated clinical efficacy (see Cuijpers et al., 2016).

CONCLUSION

Despite its limitations with respect to accounting for culture, physical health risks, and the explanatory mechanisms for associations with mental health, affection exchange theory has shown itself to be a generative, heuristically valuable, and empirically strong organizing framework for understanding human affectionate

communication since its introduction in 2001. This state-of-the-art review indicates that most AET postulates have been well supported empirically. That is particularly true of postulates claiming that affectionate communication covaries with relationship success and with health and wellness (see Table 2). Some claims await empirical verification, including those connecting affectionate behavior with perceived mate value.

Although much is known about affectionate communication and its associations with physical, mental, and relational well-being, much is also left to be discovered, and AET is likely to be a driving theoretical force for future inquiry. At least three lines of inquiry show promise for future research using AET. First, whereas research has indicated that the tendency to be affectionate is heritable, little is known about the specific genes that predict this tendency. Floyd and Denes (2015) implicated the oxytocin receptor gene, but much is left to learn about the heritable basis of the affectionate tendency. Future studies could examine, for instance, genes involved in the regulation of dopamine, arginine vasopressin, and other hormones connected to prosocial behavior.

Second, multiple studies have documented differences in the forms and frequencies of affectionate behavior. AET does not implicate social learning as an explanatory mechanism for such differences. Nonetheless, learning is not the only potential explanation for cultural variation. Cultural groups may vary, for example, as a function of geography, climate, and disease susceptibility, all of which have implications for survival. Thus, even though AET does not reflect a social learning orientation, it may still be able to account for cultural differences. Future research could advance AET's explanatory power by identifying the non-learned mechanisms that underlie cultural variation.

Finally, the introduction of wearable technologies provides new avenues for sharing affection. An example is the Hugvie, a huggable pillow that allows users to talk to their loved ones via an embedded cell phone connection. Hugvie also vibrates to simulate a partner's heartbeat, and the vibrations change in response to a partner's tone of voice (Kuwamura et al., 2014). A viable question for future research is whether affectionate communication contributes to health even if delivered via technology. Some research has shown that using Hugvie reduces anxiety (Yamazaki et al., 2016) and improves sleep quality (Doi et al., 2024). Future research using AET could examine the extent to which Hugvie's health effects depend on the nature of one's relationship with the distant user. Is Hugvie effective if one is interacting with a stranger, for instance?

Apart from its empirical support, AET helps expand the discipline's conception of communication. As Floyd and Afifi (2012) pointed out, the communication field is adept at framing communication in the social learning tradition. Floyd and Afifi argued for the utility of a broader perspective that views communication also as a biological act. Building on Beatty and McCroskey's communicobiological paradigm (Beatty, McCroskey, & Heisel, 1998), AET focuses on the physical and evolutionary causes and consequences of communication acts. Such a perspective does not replace a focus on social learning. Rather, it recognizes a strong connection between humans as social beings and humans as biological beings. In this manner, AET contributes to a growing disciplinary conversation expanding the concept of communication to include biological influences and outcomes (Floyd & Weber, 2020).

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