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Affection Deprivation is Conceptually and Empirically Distinct From Loneliness

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Due in part to its contributions to physical health and mental well-being, the communication of affection has received much empirical attention in recent years and has been argued to be a fundamental human need. Working from that premise, Floyd (2014b) advanced the theoretic construct of affection deprivation, an acute or chronic state in which one fails to receive the level of affection he or she desires from others. Affection deprivation is empirically associated with multiple relational and health-related outcomes, but its focus on being deprived of meaningful communication and connection with others raises a legitimate question about its distinctiveness from loneliness. This article argues for a conceptual distinction between affection deprivation and loneliness, reanalyzing the original data from Floyd (2014b), and analyzing newly collected data, to show that affection deprivation and loneliness are empirically distinct as well.

Keywords: *Affection Deprivation; Affection Exchange Theory; Factor Analysis; Loneliness*

Homo sapiens is a supremely social species, easily the most social of all the social primates (Floyd, 2014a). As such, humans crave social connection, in the service of what Baumeister and Leary (1995) called the *need to belong*. It is therefore unsurprising that people thrive—in terms of their relational, mental, and even physical health—when their needs for social inclusion are met (see, e.g., Hartung, Sproesser, & Renner, 2015). As scholarly attention has turned to the “dark side” of interpersonal communication experience (e.g., Cupach & Spitzberg, 2010), however, relationship

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researchers have begun exploring the correlates and consequences of failing to meet social engagement needs.

Two related but distinct lines of research in that vein focus on affection deprivation—the condition of receiving less affection from others than one desires (Floyd, 2014b), and loneliness—the unpleasant emotional experience resulting from social isolation (Cacioppo & Patrick, 2008). Whereas the latter construct has a wide and varied research literature, the former has received empirical attention only recently.

To be useful, however, a newly articulated construct must be conceptually and empirically distinct from existing ones. Although affection deprivation and loneliness certainly share conceptual space—both with each other and with related constructs such as social isolation, social rejection, and ostracism—does that necessarily mean that affection deprivation and loneliness are the same concept? If they were, then there would be little reason to devote attention to affection deprivation, as the construct would be theoretically and empirically subsumed under the construct of loneliness.

While granting their overlap, this article argues that affection deprivation is, in fact, both conceptually and empirically distinct from loneliness. An explanation of affection deprivation and a summary of relevant research are offered first, followed by a conceptual argument for its distinctiveness from loneliness. Three studies are then described to show that items measuring affection deprivation and loneliness comprise substantially different factors in exploratory factor analysis, lending support to an empirical distinction between the concepts.

Affection Deprivation

A robust literature attests to the physical, mental, and relational benefits associated with expressing and receiving affection. For instance, sharing affectionate behavior with a partner prior to a stressful event attenuates physiological reactivity to the stressor (Ditzen et al., 2007; Grewen, Anderson, Girdler, & Light, 2003). Similarly, high levels of affection in close relationships predict higher oxytocin increases (Floyd, Pauley, & Hesse, 2010) and lower cortisol increases (Floyd et al., 2007a) during stressful events, as well as faster stress recovery (Floyd et al., 2007b; see also Floyd, 2006b; Floyd & Riforgiate, 2008). Highly affectionate people are also advantaged in terms of immunocompetence, exhibiting more toxic natural killer cells and higher circulating levels of immunoglobulin M (Floyd et al., 2014; but see Floyd, Hesse, Boren, & Veksler, 2014). Floyd (2002) reported that trait levels of affectionate communication are linearly related to happiness, self-esteem, comfort with intimacy, attachment security, and overall mental health, as well as likelihood of having a significant romantic relationship and with the satisfaction level of those relationships. In contrast, trait affection was inversely related to stress and depression, attachment insecurity, and social isolation (see also Floyd et al., 2005). Finally, multiple studies have indicated that personal relationships characterized by high levels of affection evidence greater relational satisfaction and closeness (e.g., Floyd & Morr, 2003; Horan,

2012; Horan & Booth-Butterfield, 2010) and that increasing affectionate behavior in romantic relationships produces increases in satisfaction (Floyd et al., 2009).

The many and varied benefits associated with affection led Floyd (2014b) to speculate that being deprived of affection correlates with deficits in wellness. On the basis of affection exchange theory (Floyd, 2006a), Floyd argued that humans have a fundamental need to give and receive expressions of love and affection, especially via touch. Just as being deprived of other fundamental needs—such as the need for food or rest—would be associated with mental, physical, and even relational problems, Floyd argued that being deprived of affection is similarly detrimental to well-being.

Floyd's (2014b) original articulation of affection deprivation focused specifically on the lack of affectionate touch. That is, Floyd defined affection deprivation as "the condition of wanting more tactile affectionate communication than one receives" (p. 383). Drawing on pioneering research on touch deprivation from Prescott (1976, 1979, 1980)—who found that deficits in affectionate touch in children were associated with developmental delays and even violence and drug abuse later in life (see also MacLean, 2003; Nelson, 2007)—the concept of affection deprivation proposed that lacking sufficient affection (particularly in the form of touch) would be associated with problems affecting physical health, mental health, and social and relational wellness.

In a survey of 509 adults from the United States and 16 foreign countries, Floyd (2014b) found that deprivation of affectionate touch was positively related to depression, stress, loneliness, insecure attachment, alexithymia, and the number of diagnosed mood/anxiety disorders and secondary immune disorders. Similarly, it was negatively associated with general health, happiness, social support, relationship satisfaction, and attachment security. These results indicate that affection deprivation correlates with indices of wellness across people's physical, mental, and social experiences.

Following that initial study, Floyd (2016) reconceptualized affection deprivation as a deficit in any form of affectionate behavior, not simply touch. In three studies involving a total of 1,368 adults, Floyd found that this broader concept of affection deprivation predicted experiences of chronic physical pain as well as sleep disturbances such as sleep quality, latency, duration, and daytime dysfunction. Several other studies using the newer, broader conceptual definition of affection deprivation have also identified associations with various social indices. For instance, Hesse and Mikkelsen (*in press*) studied the connections between affection deprivation and relational quality in individuals currently belonging to romantic relationships. The full model in their study found that affection deprivation was inversely associated with relationship satisfaction ($\beta = -.28$) and closeness ($\beta = -.16$). They also found that both relational uncertainty and relational maximization moderated those associations, with most of the associations gaining strength at higher levels of both moderating variables. This included finding a significant inverse association between affection deprivation and commitment when maximization was high ($\beta = -.38$). Mederos (2015) also identified a small but significant negative association between affection deprivation and the use of tie signs in romantic relationships ($r = -.12$).

In a separate study, Hesse (2015) found that affection deprivation was inversely related to family satisfaction ($\beta = -.19$) and directly associated with depression

($\beta = .37$), loneliness ($\beta = .28$), and attachment anxiety ($\beta = .35$). Moreover, he theorized that people who feel deprived of affection may cope with that deficit by consuming pornography; in line with that prediction, Hesse found that affection deprivation showed a significant positive relationship with frequency of pornography use ($\beta = .44$).

As currently conceptually defined, therefore, affection deprivation refers to a state or trait characterizing the receipt of less affectionate communication than one wishes to receive. Several theoretic perspectives consider affection to be a fundamental human need. For instance, Maslow's (1943) theory of human motivation—commonly referred to as his *hierarchy of needs*—offers that human behavior is motivated toward the service of five hierarchically ordered categories of need. Most important for survival are physiological needs, such as adequate food, water, oxygen, and shelter. After those needs are satisfied, people are motivated to fulfill safety needs—that is, actions that ensure their safety from illness, injury, crime, bankruptcy, and other threats. Maslow argued that after people fulfill their basic physiological and safety needs, they are motivated to achieve interpersonal belongingness in their social and personal relationships. Maslow explained that failure to attain an adequate level of intimacy with others made people susceptible to depression, social anxiety, and loneliness. According to Maslow's theory, needs for love and belonging must be met before people are motivated to address their needs for esteem—that is, acceptance and respect from the self and others, and self-actualization—the realization of their full potential.

The importance of love and belongingness is also reflected in Schutz's (1958) fundamental interpersonal relations orientation (FIRO) theory. Schutz proposed that people's social interactions are motivated by three fundamental interpersonal needs: inclusion, affection, and control. The need for inclusion is the need to belong and to be recognized as part of a relationship or group. The need for affection is the need to be loved and to experience interpersonal warmth. Finally, the need for control refers to the need to exercise some measure of influence in social interactions. In later years, Baumeister and Leary's (1995) "need to belong" concept capitalized on Schutz's need for inclusion and Maslow's belongingness needs by calling the need to belong essential for healthy human functioning. Similarly, Floyd's (2006a) affection exchange theory expanded on Schutz's need for affection (and, by extension, Maslow's belongingness needs) by claiming that the capacity and propensity for expressing affection (as opposed, simply, to feeling it) are evolutionarily adaptive.

Considering affection to be a fundamental human need—as these theoretic treatments do—would lead one to believe that a failure to meet that need is associated with a range of problems, and previous work has confirmed that hypothesis. Nonetheless, a similar state/trait experience—loneliness—shows associations with many of the same problems, raising a legitimate question as to whether affection deprivation is sufficiently distinct from loneliness to be considered a separate construct. This issue is addressed subsequently.

Potential Conceptual Overlap with Loneliness

Is affection deprivation simply loneliness by another name? This is a useful question to consider for at least two reasons. First, loneliness is routinely associated with many of the same physical, mental, and health problems identified as correlates of affection deprivation. For instance, loneliness predicts pain and fatigue (Jaremka et al., 2013), sleep disturbances (Kurina et al., 2011), depression (Aylaz, Aktürk, Erci, Öztürk, & Aslan, 2012), relationship dissatisfaction (Frye-Cox & Hesse, 2013), and alexithymia (Qualter, Quinton, Wagner, & Brown, 2009), as well as hypertension (Momtaz et al., 2012), lack of physical activity (Shankar, McMunn, Banks, & Steptoe, 2011), and inflammatory responses to stress (Jaremka et al., 2013). The second reason it is useful to consider the distinction between affection deprivation and loneliness is that these variables correlate strongly with each other. Hesse (2015) identified a significant relationship between affection deprivation and loneliness ($\beta = .28$), as did Floyd (2014b; $\beta = .45$). To the extent that measures of these variables share variance, it is therefore worth asking how distinct they are from each other.

It would be untenable to argue that affection deprivation and loneliness are entirely unrelated at a conceptual level. Fundamentally, they each index a deficit of some sort. For example, Cacioppo and colleagues (2006) defined loneliness as “a complex set of feelings that occurs when intimate and social needs are not adequately met” (p. 1055). Heinrich and Gullone (2006) also emphasize that loneliness is an “emotionally unpleasant experience” related to the difference between desired and actual social connectedness (p. 698). Inherent in each conceptual definition is a discrepancy between what is desired and what is experienced, which is in line with the definition of affection deprivation as a deficit in desired affection.

Nonetheless, two observations speak to a conceptual distinction between loneliness and affection deprivation. First, loneliness describes a broad deficit in social connectedness, writ large—that is, a deficit in the need for inclusion, as articulated by Schutz (1958). This contention is evidenced by items on the UCLA Loneliness Scale (the most widely used operational definition of loneliness; Russell, 1996) such as “I lack companionship,” “No one really knows me well,” and “I am unhappy doing so many things alone.” In contrast, affection deprivation focuses specifically on a shortage of affectionate behavior received from other people—that is, a deficit in Schutz’s need for affection—as evidenced by items from Floyd’s (2016) revised scale such as “I often wish I got more affection from others,” “I wish the people in my life would hug me more often,” and “I don’t get enough affection from other people.” These representative items from two operational definitions illustrate a conceptual difference wherein affection deprivation indexes a lack of affectionate communication, specifically from other people, whereas loneliness indexes a broader deficit in social inclusion or connection.

Although both constructs are ultimately perceptual, a second observation related to their distinctiveness is that loneliness is more affective and affection deprivation is more behavioral. Recall that Cacioppo et al. (2006, p. 1055) defined loneliness as “a complex set of *feelings*” and Heinrich and Gullone (2006, p. 698) called it an “*emotionally* unpleasant experience,” both of which are highly affective in nature

(emphases added). In contrast, Floyd (2014b, p. 383), working with an original focus on touch, defined affection deprivation as “the condition of wanting more tactile affectionate communication than one receives,” which is focused on a deficit in the desired level of other people’s *behaviors*. This is certainly not to suggest that the feeling of loneliness is not tied to the behavior of others, or that affection deprivation does not have a negative affective component. Rather, the two constructs can be considered to occupy somewhat different conceptual space.

There is a clear empirical relationship between affection deprivation and loneliness, yet even correlated constructs can be empirically distinct. For instance, loneliness and depression are correlated with each other, yet scale items measuring loneliness and scale items measuring depression comprise substantially separate factors when factor analyzed together (Cacioppo et al., 2006), indicating their empirical distinctiveness. On the basis of a conceptual distinction between loneliness and affection deprivation, it is proposed that items measuring each construct will also constitute separate factors when analyzed together:

H1: Items measuring affection deprivation and items measuring loneliness load onto substantially separate factors.

The hypothesized empirical distinction between affection deprivation and loneliness raises issues of concurrent and discriminant validity. A measure of a target construct evidences concurrent validity when it shows substantial overlap with a measure of a construct to which the target construct should theoretically be related. Discriminant validity is demonstrated by a lack of substantial overlap with measures of constructs to which the target construct should theoretically be unrelated (see, e.g., Litwin, 1995).

As explained above, there is every reason to expect affection deprivation and loneliness to covary. To the extent that affection deprivation evidences significant correlations with a validated measure of loneliness, therefore, such correlations support the concurrent validity of the operational definition for affection deprivation. We argued above, however, that even correlated constructs can be empirically distinct, meaning that even if affection deprivation and loneliness covary, that does not necessarily make them the same construct. To the extent that affection deprivation and loneliness items load onto substantially separate factors, as we hypothesize, such a result will support the discriminant validity of the affection deprivation measure.

Three studies test the hypothesis. The first study comprises a reanalysis of the original Floyd (2014b) measures of affection deprivation and loneliness, wherein affection deprivation indexes a deficit in affectionate touch specifically. The second and third studies report analyses of new data using the revised measure of affection deprivation indexing a deficit in general affectionate behavior.

STUDY ONE

Participants

As described in Floyd (2014b), participants ($N = 509$) were 296 men, 203 women, and 10 adults declining to indicate their biological sex, who ranged in age from 18 to

71 years, with an average age of 33.17 years ($SD = 9.42$). The participants came from all 50 U.S. states, the District of Columbia, and Puerto Rico, as well as 16 foreign countries.¹ Slightly more than half (57.4%) self-identified as Caucasian, whereas 26.3% were Asian/Pacific Islander, 5.5% were Black/African American, 5.1% were Native American, 4.1% were Hispanic or Latino/a, and 3.7% were of other ethnic origins (these percentages sum to >100 because participants could indicate more than one ethnicity). Most participants were either married (46.6%) or had never been married (44.8%), whereas the rest were divorced (7.9%) or widowed (0.8%).

Procedure and Measures

Participants were recruited via the Amazon.com crowdsourcing marketplace Mechanical Turk (MTurk). To be eligible for the study, participants had to be at least 18 years old and able to read and write English. Eligible participants completed and submitted an online questionnaire in exchange for \$2US. Recent research has found that samples recruited on MTurk for academic research are typically more representative of the U.S. population than are in-person convenience samples (Berinsky, Huber, & Lenz, 2012; Paolacci, Chandler, & Ipeirotis, 2010). A more complete description of the procedure appears in Floyd (2014b).

Affection deprivation was measured with a six-item scale developed by Floyd (2014b). Items focus specifically on the receipt of affectionate touch and on participants' dissatisfaction with the amount they receive from other people (e.g., "I don't get enough affectionate touch from others"; "I often wish I got more affectionate touch in my life"). Coefficient alpha was .87. Participants indicated their level of agreement with each item on a 9-point scale (1 = *strongly disagree*, 9 = *strongly agree*). The mean score of 4.91 was near the theoretic midpoint of the scale ($SD = 1.93$), indicating moderate aggregate levels of affection deprivation.

Loneliness was assessed using the 20-item UCLA Loneliness Scale (Russell, 1996), which includes items such as "I feel left out" and "I feel starved for company." Coefficient alpha was .97. Participants also responded to the items using a 9-point scale, and the mean score of 3.80 ($SD = 2.02$) indicated relatively mild loneliness, on average. The UCLA Loneliness Scale has been extensively validated in previous research (e.g., Hartshorne, 1993).

The order of items measuring loneliness and affection deprivation was randomized separately for each participant.

Results

Items measuring affection deprivation and loneliness were subjected to a principal axis factor analysis with oblique (direct Oblimin) rotation to allow for the possibility of correlated factors, as Floyd (2014b) reported a zero-order correlation of $r = .45$ between affection deprivation and loneliness ($p < .001$, one-tailed). KMO test indicated high sampling adequacy (.96) and Bartlett's test of sphericity was significant, χ^2

(325) = 10,484, $p < .001$. Three factors were produced that had eigenvalues greater than one, accounting for 69.44% of cumulative variance, but no items loaded onto the third factor, indicating overfactoring (Comrey, 1978).

A subsequent analysis that constrained the number of factors to two revealed that the two factors were distinguishable on the basis of their scale source (cumulative variance accounted for = 64.05%). Criteria for selecting a factor solution (in all three studies) reflected those advocated by Burgoon and Hale (1987): (1) eigenvalues of 1.0 or higher on all factors; (2) a Scree test indicating reasonable improvement in variance accounted for with the inclusion of each factor; and (3) at least three items on each factor with primary loadings of .50 or higher and secondary loadings of .30 or lower.

The first factor consisted exclusively of items measuring loneliness, whereas the second factor comprised items measuring affection deprivation. Notably, the loadings of affection deprivation items on the loneliness factor were low (mean absolute value = 0.07), as were the loadings of loneliness items on the affection deprivation factor (mean absolute value = 0.19), further supporting the empirical distinctiveness of the two constructs. Factor loadings appear in Table 1.

Discussion

This study addressed the question of whether affection deprivation is conceptually and empirically distinguishable from loneliness, given that both constructs inherently index a perceived deficit in one's desired social and relational connection. Based on a two-part argument for their conceptual distinctiveness, it was predicted that affection deprivation and loneliness would evidence empirical distinctiveness as a function of their items loading onto different factors. As Table 1 demonstrates, the hypothesis was supported, with all of the affection deprivation items loading together onto one factor and all of the loneliness items loading together onto a separate factor.

The first study used previously collected data employing Floyd's (2014b) original affection deprivation scale, which indexed a deficit in received affectionate touch specifically. All subsequent investigations of affection deprivation, however—including Floyd (2016), Hesse (2015), Hesse and Mikkelsen (*in press*), and Mederos (2015)—have instead used a revised scale that focuses on a deficit in received affectionate behavior, tactile or otherwise. To evaluate whether this revised conceptual and operational definition of affection deprivation is also empirically distinct from loneliness, a second study collected new data using the revised scale.

STUDY TWO

Participants

Participants ($N = 496$) were 296 men, 203 women, and 10 adults declining to indicate their biological sex, who ranged in age from 18 to 75 years, with an average age of 32.62 years ($SD = 10.35$). The participants came from 47 of 50 U.S. states, the U.S. Virgin Islands, India, Sri Lanka, and the United Kingdom. Most (75%) self-identified as Caucasian, whereas 14.1%

Table 1 Factor Loadings for Study One Variables (N = 509)

Item	Factor	Factor
	I	II
I am unhappy doing so many things alone.	.63	.20
I have nobody to talk to.	.86	-.03
I cannot tolerate being so alone.	.54	.19
I lack companionship.	.79	.11
I feel as if nobody really understands me.	.86	-.05
I find myself waiting for people to call or write.	.65	.06
There is no one I can turn to.	.80	.01
I am no longer close to anyone.	.85	-.04
My interests and ideas are not shared by those around me.	.72	-.02
I feel left out.	.84	.03
I feel completely alone.	.90	-.04
I am unable to reach out and communicate with those around me.	.78	-.04
My social relationships are superficial.	.63	.06
I feel starved for company.	.74	.18
No one really knows me well.	.83	-.05
I feel isolated from others.	.87	-.01
I am unhappy being so withdrawn.	.74	.12
It is difficult for me to make friends.	.74	-.17
I feel shut out and excluded by others.	.88	-.03
People are around me but not with me.	.82	-.03
<i>I don't get enough affectionate touch from other people.</i>	.37	.60
<i>I often wish I got more affectionate touch from others.</i>	.18	.83
<i>I wish the people in my life would hug me more often.</i>	.16	.73
<i>I get enough affectionate touch in my life.*</i>	.05	.49
<i>I don't wish for more affectionate touch than I already get.*</i>	-.26	.63
<i>One thing I would change about my close relationships is to receive more affectionate touch.</i>	.15	.81

Note. All items were measured on 9-point scales, wherein higher scores indicate greater agreement with each item. Primary loadings appear in bold type. Italicized items correspond to affection deprivation; nonitalicized items correspond to loneliness.

*Reverse-coded.

were Asian/Pacific Islander, 6.3% were Black/African American, 6.3% were Hispanic or Latino/a, 1.6% were Native American, and 0.4% were of other ethnic origins (these percentages again sum to >100 because participants could indicate more than one ethnicity).

Procedure and Measures

Participants were again recruited through MTurk using the same inclusion criteria as in Study One, with the exception that participants were required to be “master

workers” (a designation indicating consistently high quality in submitted work) who had completed at least 100 previous jobs with an average approval rate equaling or exceeding 95%. Eligible participants completed and submitted a short online questionnaire in exchange for \$0.40US.²

Loneliness was again assessed using the 20-item UCLA Loneliness Scale. Coefficient alpha was .97. Participants again responded to the items using a 9-point scale, and the mean score of 3.32 ($SD = 1.88$) indicated relatively mild loneliness, on average.

Affection deprivation was measured with a modified eight-item version of Floyd’s (2014b) original scale. The modification, first used in Floyd (2016), reworded the original six items to refocus them from affectionate touch specifically to affectionate communication more generally. Two new items were also added: “Affection is something I could use more of in my life,” and “In general, I feel deprived of affection” (reverse-coded). Coefficient alpha for the revised eight-item measure was .92. Participants again indicated their level of agreement with each item on a 9-point scale.

To test the construct validity of the measure, we ran a confirmatory factor analysis in Amos version 21. In line with previous research, several indices of fit were used to examine overall fit of each confirmatory factor analysis, including the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and χ^2 . An acceptable CFI is greater than .90, whereas a good fit is greater than .95 (Holbert & Stephenson, 2008). An RMSEA of .10 or lower is evidence of adequate model fit whereas an RMSEA under .06 indicates excellent model fit (Holbert & Stephenson, 2008).

The initial CFA did not show good model fit, so we used the modification indices to sequentially let error terms covary only if there was a theoretic argument to do so. This led us to let the error terms of item 1 to item 8 covary (the items are worded in a very similar fashion) and let the error terms of item 5 to item 6 covary (these are the two reverse-coded items in the scale). The final model fit was moderate, $\chi^2 = 81.35$, $p < .001$, CFI = .98, RMSEA = .08

The mean score of 4.07 was slightly below the theoretic midpoint of the scale ($SD = 1.97$), indicating moderate to lower aggregate levels of affection deprivation. As in Study One, the order of items measuring loneliness and affection deprivation was randomized separately for each participant.

Results

Items measuring affection deprivation and loneliness were again subjected to a principal axis factor analysis with oblique (direct Oblimin) rotation to allow for the possibility of correlated factors, as affection deprivation and loneliness were strongly correlated, $r(494) = .75$, $p < .001$ (two-tailed). KMO test indicated high sampling adequacy (.98) and Bartlett’s test of sphericity was significant, $\chi^2(378) = 12,779$, $p < .001$. Three factors were produced that had eigenvalues greater than one, accounting for 72.44% of cumulative variance.

Unlike in Study One, all three factors included items, so a three-factor solution was retained. The first factor consisted exclusively of items measuring loneliness, and the

second factor consisted exclusively of items measuring affection deprivation. As in the first study, the loadings of loneliness items (factor 1) on the affection deprivation factor (factor 2) were low (mean absolute value = 0.04), as were the loadings of affection deprivation items on the loneliness factor (mean absolute value = 0.20), supporting the empirical distinctiveness of affection deprivation and loneliness.

Not all of the loneliness items loaded onto the first factor, however, and not all of the affection deprivation items loaded onto the second factor. Rather, a third factor contained three of the eight affection deprivation items and five of the twenty loneliness items. As discussed below, the five loneliness items correspond conceptually to each other, but it is less clear why the three affection deprivation items loaded onto factor 3 as opposed to factor 2. Factor loadings appear on [Table 2](#).

Discussion

To account for modifications in the Floyd (2014b) scale of affection deprivation—which broadened the focus from affectionate touch to affectionate behavior in general—new data were collected using the modified affection deprivation scale and the same loneliness scale. As in Study One, two empirically distinct factors emerged, one composed entirely of loneliness items and one composed entirely of affection deprivation items. Unlike in the first study, however, a third factor emerged containing some items from each scale, calling for analysis of that factor’s conceptual distinctiveness.

The five loneliness items on factor 3 all correspond to what Cacioppo and Cacioppo (2012) identified as the *intimate isolation/connection* dimension of loneliness (which Weiss, 1973, termed *emotional loneliness*). This dimension refers to the perceived absence of someone who can affirm one’s existence and serve as a nurturing confidant (see also Hawkey, Browne, & Cacioppo, 2005). As Cacioppo and Cacioppo explained, this facet of loneliness emphasizes the emotional aspects of connection with others, and although not all of the UCLA Loneliness Scale items typically corresponding to this dimension appear on factor 3, all of the loneliness items included in factor 3 represent this dimension.

They are joined on factor 3 by three affection deprivation items: “I often wish I got more affection from others,” “I wish the people in my life would hug me more often,” and “In general, I feel deprived of affection.” Although these items all index a perception of affection deprivation, they do not, on their face, appear to differ systematically from the other five affection deprivation items that loaded onto factor 2 (with perhaps the exception of the item “I wish the people in my life would hug me more often,” as it is the only item on the revised eight-item scale to refer to a specific affection behavior).

Because the revised affection deprivation scale broadened the focus from touch specifically, to affectionate behavior generally, it may be unsurprising that a lower degree of empirical distinctiveness emerged in Study Two in the form of a factor containing some items measuring each construct. As reformulated, the new definition of affection deprivation retains the focus on behavior (as opposed to affect) but it

Table 2 Factor Loadings for Study Two Variables (N = 496)

Item	Factor I	Factor II	Factor III
I have nobody to talk to.	.84	.04	-.07
I lack companionship.	.64	.22	-.14
I feel as if nobody really understands me.	.84	.01	-.01
There is no one I can turn to.	.82	.02	-.05
I am no longer close to anyone.	.97	-.03	.16
My interests and ideas are not shared by those around me.	.82	-.04	.02
I feel left out.	.57	-.01	-.41
I feel completely alone.	.70	.02	-.21
I am unable to reach out and communicate with those around me.	.71	.02	-.16
My social relationships are superficial.	.66	-.01	-.12
No one really knows me well.	.90	.03	.15
I feel isolated from others.	.71	.01	-.21
It is difficult for me to make friends.	.70	-.01	.03
I feel shut out and excluded by others.	.57	.06	-.38
People are around me but not with me.	.80	.06	-.05
<i>I don't get enough affection from other people.</i>	.38	.39	-.35
<i>I get enough affection in my life.*</i>	.26	.57	.08
<i>I don't wish for more affection than I already get.*</i>	-.13	.70	.06
<i>One thing I would change about my close relationships is to receive more affection.</i>	.15	.52	-.42
<i>Affection is something I could use more of in my life.</i>	.11	.59	-.30
<i>I often wish I got more affection from others.</i>	.14	.47	-.48
<i>I wish the people in my life would hug me more often.</i>	-.01	.38	-.55
<i>In general, I feel deprived of affection.</i>	.37	.32	-.41
I am unhappy doing so many things alone.	.25	.01	-.65
I cannot tolerate being alone.	-.06	.01	-.67
I find myself waiting for people to call or write.	.15	.01	-.61
I feel starved for company.	.33	.04	-.61
I am unhappy being so withdrawn.	.36	.01	-.54

Note. All items were measured on 9-point scales, wherein higher scores indicate greater agreement with each item. Primary loadings appear in bold type. Italicized items correspond to affection deprivation; nonitalicized items correspond to loneliness.

*Reverse-coded.

broadens that focus, perhaps making it slightly more likely to share conceptual space with loneliness.

It is perhaps worth noting that, for the affection deprivation items in factor 3, the discrepancies between their primary and second-highest factor loadings were miniscule, averaging only 0.09, whereas for the affection deprivation items in factor 2, the average discrepancy was nearly three times as large, at 0.26. Put differently, the items

in factor 2 had a more substantial claim to their factor, as opposed to the affection deprivation items that loaded onto the third factor. That observation certainly does not suggest disregarding the third factor, but simply acknowledges a stronger empirical fit for the items on the factor composed only of affection deprivation items.

A potential limitation of Studies One and Two is that a newer version (version 3) of the UCLA Loneliness Scale has been published in which some of the items are reverse-scored to mitigate a response set (Russell, 1996). Thus, it would be instructive to test the empirical distinctiveness of affection deprivation and loneliness using that version of the loneliness measure. Insofar as participants in both Study One and Study Two encountered the affection deprivation and loneliness items in an interspersed and randomized order, concerns over a response set are likely minimal. Nonetheless, repeating the data collection and factor analysis with the newer version of the UCLA scale is warranted, given the new scale's use in contemporary loneliness research. Study Three undertook this task.

STUDY THREE

Participants

Participants ($N = 489$) were 232 men, 254 women, and 3 adults declining to indicate their biological sex, who ranged in age from 18 to 73 years, with an average age of 38.15 years ($SD = 11.46$). The participants came from 45 of 50 U.S. states and the District of Columbia. Most (81%) self-identified as Caucasian, whereas 8.2% were Asian/Pacific Islander, 7.2% were Black/African American, 5.1% were Hispanic or Latino/a, 1.4% were Native American, and 0.2% were of other ethnic origins.

Procedure and Measures

Participants were again recruited via MTurk using the same inclusion criteria as in Study Two, with the exception that recruitment was restricted to workers located in the United States. Eligible participants completed and submitted a short online questionnaire in exchange for \$1.25US.³

Loneliness was assessed using the 20-item UCLA Loneliness Scale (version 3; Russell, 1996), which divides the 20 items into 11 negatively worded items and 9 positively worded (reverse-scored) items. The language of some of the items was also simplified to be accessible to less-educated audiences. Coefficient alpha was .97. Participants again responded to the items using a 9-point scale, and the mean score of 3.65 ($SD = 1.86$) indicated relatively mild loneliness, on average.

Affection deprivation was measured with the modified eight-item version of Floyd's (2014b) scale used in Study Two. Coefficient alpha for the revised eight-item measure was .95. Participants again indicated their level of agreement with each item on a 9-point scale. The mean score of 4.06 was slightly below the theoretic midpoint of the scale ($SD = 2.13$), indicating moderate to lower aggregate levels of affection deprivation.

To test the construct validity of the measure, we again ran a confirmatory factor analysis in Amos version 21. The initial CFA did not show good model fit, so we used the modification indices to sequentially let error terms covary in a similar fashion to Study 2.⁴ After the modifications, the final model fit was moderate, $\chi^2 = 57.23$, $p < .001$, CFI = .99, RMSEA = .08.

As in the previous studies, the order of items measuring loneliness and affection deprivation was randomized separately for each participant.

Results

Items measuring affection deprivation (minus the item removed after the CFA) and loneliness were again subjected to a principal axis factor analysis with oblique (direct Oblimin) rotation to allow for the possibility of correlated factors, as affection deprivation and loneliness were again strongly correlated, $r(487) = .58$, $p < .001$ (two-tailed). KMO test indicated high sampling adequacy (.97) and Bartlett's test of sphericity was significant, $\chi^2(378) = 22,370$, $p < .001$. Three factors were produced that had eigenvalues greater than one, accounting for 74.65% of cumulative variance.

As in Study Two, all three factors included items, so a three-factor solution was retained. The first factor consisted exclusively of items measuring loneliness, and the second factor contained all of the items measuring affection deprivation and no other items. The loadings of loneliness items (factor 1) on the affection deprivation factor (factor 2) were low (mean absolute value = 0.10), as were the loadings of affection deprivation items on the primary loneliness factor (mean absolute value = 0.15), further supporting the empirical distinctiveness of affection deprivation and loneliness.

As in Study Two, not all of the loneliness items loaded onto the first factor—although, unlike in Study Two, all of the affection deprivation items loaded onto the second factor. A third factor emerged containing three of the 20 loneliness items. As discussed below, the items correspond conceptually to each other, but it is not immediately evident why they did not load with the other 17 loneliness items. Factor loadings appear on [Table 3](#).

Discussion

To accommodate modifications in the UCLA Loneliness Scale, a third study replicated the factor analytic procedures of Study One and Study Two. As in Study One, all of the affection deprivation items loaded onto the same factor and separately from the factors containing the loneliness items. A primary loneliness factor also emerged containing 17 of the 20 loneliness items (although two items—"I feel as though I am part of a group of friends" and "I have a lot in common with the people around me"—showed highly similar factor loadings on the first and third factors), and a secondary loneliness factor emerged containing items related to extraversion ("I am an

Table 3 Factor Loadings for Study Three Variables (N = 489)

Item	Factor I	Factor II	Factor III
I lack companionship.	.71	.23	.05
There is no one I can turn to.	.97	.05	-.16
I often feel alone.	.58	.31	.15
I feel as though I am part of a group of friends.*	.45	.07	.42
I have a lot in common with the people around me.*	.45	-.06	.42
I am no longer close to anyone.	.91	.02	-.02
My interests and ideas are not shared by those around me.	.54	-.01	.26
There are people I feel close to.*	.90	-.08	.01
I often feel left out.	.54	.33	.12
My relationships with others are not meaningful.	.86	-.06	.04
No one really knows me well.	.69	.04	.18
I feel isolated from others.	.73	.20	.08
I can find companionship when I want it.*	.68	.14	.05
There are people who really understand me.*	.75	-.08	.20
People are around me but not with me.	.60	.21	.21
There are people I can talk to.*	.89	-.08	.01
There are people I can turn to.*	.90	-.06	-.01
<i>I don't get enough affection from other people.</i>	.27	.74	-.04
<i>I don't wish for more affection than I already get.*</i>	.01	.67	.03
<i>One thing I would change about my close relationships is to receive more affection.</i>	-.03	.92	.05
<i>Affection is something I could use more of in my life.</i>	-.03	.88	.03
<i>I often wish I got more affection from others.</i>	.03	.90	.03
<i>I wish the people in my life would hug me more often.</i>	-.11	.88	.01
<i>In general, I feel deprived of affection.</i>	.44	.60	-.06
I feel I am "in tune" with the people around me.*	.30	-.04	.56
I am an outgoing and friendly person.*	.01	-.01	.83
I often feel shy.	.01	.22	.61

Note. All items were measured on 9-point scales, wherein higher scores indicate greater agreement with each item. Primary loadings appear in bold type. Italicized items correspond to affection deprivation; nonitalicized items correspond to loneliness.

*Reverse-coded.

outgoing and friendly person," "I feel that I am 'in tune' with the people around me," and "I often feel shy").

Even though the loneliness items were divided between two factors, none of the loneliness items loaded strongly on the affection deprivation factor and none of the affection deprivation items loaded substantially onto either of the loneliness factors (the only exception being a loading of .44 of the affection deprivation item "In general,

I feel deprived of affection” on the primary loneliness factor, although the same item had a loading of .60 on the affection deprivation factor).

GENERAL DISCUSSION

Although loneliness has received robust empirical attention, and over many decades, affection deprivation has only recently been articulated as a theoretic construct. Its distinctiveness from loneliness bears directly on its utility, inasmuch as the affection deprivation construct is less theoretically and empirically meaningful if it is fundamentally “loneliness by another name.” The fact that affection deprivation and loneliness are correlated with many of the same indices of health and well-being—as well as with each other—makes examining their distinctiveness even more useful.

Although it would be indefensible to claim that affection deprivation and loneliness are fully orthogonal constructs, that does not necessarily mean they are indistinguishable conceptually and/or empirically. This article argued for a conceptual distinction between affection deprivation and loneliness based on two observations: 1) affection deprivation indexes a specific deficit in the receipt of affectionate expressions from others, whereas loneliness indexes a broader deficit in social connectedness, writ large; and 2) loneliness is a more affective experience, whereas affection deprivation has more of a behavioral focus. On the basis of that claim, two studies tested the prediction that items measuring affection deprivation and items measuring loneliness would load onto largely different factors when submitted to a factor analysis. In line with that hypothesis, affection deprivation and loneliness items comprised entirely different factors in Study One and in Study Three (although the loneliness items were divided between a primary and secondary loneliness factor), whereas in Study Two, the loneliness and affection deprivation items each produced one unique factor as well as a shared third factor.

Collectively, these findings indicate substantial but not absolute empirical distinctiveness for affection deprivation and loneliness, which speaks to their individual utility as antecedents or correlates of health and wellness outcomes. Both loneliness (Cacioppo et al., 2002) and affection deprivation (Floyd, 2016) are associated with impaired sleep efficiency, for instance, but that does not necessarily mean that when observing the effect of affection deprivation, one is merely observing the effect of loneliness in disguise. Although loneliness and affection deprivation do share variance—and thus would overlap somewhat in their associations with sleep quality—they are perhaps conceptually and empirically distinct enough to account for significant amounts of unique variance in sleep quality as well. That prediction awaits empirical verification, but the results of the present studies offer reason not to consider affection deprivation to be conceptually subsumed by loneliness.

The present results also support both the concurrent and discriminant validity of the affection deprivation scale, which has now been used in several empirical investigations. Loneliness is a useful comparison for affection deprivation, insofar as the two constructs share conceptual space and typically evidence significant covariance.

The concurrent validity of the affection deprivation scale is supported by its significant correlations with loneliness in all three studies, and the scale's discriminant validity is supported by the mostly separate factors onto which affection deprivation and loneliness scale items load.

A potentially useful direction for future research would be to examine the separation between affection deprivation and loneliness using a different operational definition of loneliness. As discussed in Study Two, some items on the UCLA Loneliness Scale tap into feelings of loneliness, which Weiss (1973) called *emotional loneliness*, whereas others index the presence of lack of close friends or intimates, which is more relational than affective. Examining how affection deprivation is distinguished from a different operational definition of loneliness may add to its utility as a unique and useful research construct.

Notes

1. The foreign countries were Andorra, Angola, Argentina, Australia, Bahrain, Barbados, Canada, Germany, India, Italy, Macedonia, Serbia, Singapore, Syria, Togo, and the United Kingdom.
2. The rate of pay in Study Two was lower than in Study One because the questionnaire was substantially shorter.
3. The rate of pay in Study Three was higher than in Study Two because the questionnaire included several additional questions for another study.
4. The specific modification steps for Study 3 are available upon request.

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