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Translational Family Science and Forgiveness:
A Healthy Symbiotic Relationship?

This article explores how translational family science might be instantiated by considering research on forgiveness in close relationships. Relevant historical context is provided to traverse ground in multiple disciplines in an attempt to avoid repetition of past errors. The translational science continuum (T1 to T4) is considered and specific examples of each type of translation are outlined. A set of explicitly stated implications are offered in the course of the analysis. These implications speak to lessons that can be learned for translational family science from the examination of forgiveness in a relationship context as well as mandates for forgiveness research that become apparent when research on this construct is viewed through the lens of translational family science. The potential for a healthy symbiotic relationship between translational family science and research on forgiveness in relationships is explored.

Some historical context clarifies why attention to translational family science is propitious, especially given its central focus on family well-being (Grzywacz & Allen, 2017). At the turn of the 20th century, concern among social reformers about the increasing number of families experiencing deleterious social and economic conditions gave rise to the scientific study of families (Christensen, 1964).

The American Sociological Society focused its 1908 conference on "problems of interpersonal relations in the family" (Burr, Hill, Nye, & Reiss, 1979, p. 40), and by the time a multidisciplinary professional association of researchers and practitioners was established in 1938 (National Council on Family Relations [NCFR]), some 800 articles on the family had been published in scientific journals (Aldous & Hill, 1967). Several major intellectual traditions helped shape the scientific study of families, including symbolic interactionism, family sociology, psychiatry, family therapy, developmental psychology, learning theory, and clinical psychology (Gottman, 1979; Jacob, 1987). A historical account from the perspective of family science per se makes clear the pivotal role played by practitioners in developing the interdisciplinary study of families (see Hamon & Smith, 2017; Hamon & Smith, 2014; Hollinger, 2002; NCFR Task Force, 1988). Since its inception, then, the scientific study of families has reflected concern about the well-being of families and this ongoing interest is shown by the contribution of disciplines such as psychiatry, family therapy, and clinical psychology to understanding families.

Given these circumstances, it is common for those who study families to consider what models of translational science taking root in other disciplines seeking to improve human well-being can offer to the family field. Therefore, in the present article, I explore how a translational science perspective might be applied to an emerging area of research: forgiveness in close relationships. In doing so,

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implications for the realization of a translational family science are highlighted, as are the ways in which this exercise might advance understanding of forgiveness. It is hoped that the dialectical relationship that emerges, in which forgiveness scholarship informs and is informed by translational family science, will itself instantiate what it means to engage in translational family science.

PROLEGOMENA: PERTINENT HISTORICAL CONTEXT

As noted by Grzywacz and Allen (2017), there has been pervasive adoption of *translational science* models since the emergence of the term. Although new terminology has arisen, the motivation behind it is somewhat older as reflected in such ideals as the scientist-practitioner model in clinical psychology. Formally adopted at the Boulder Conference in 1949, the scientist-practitioner or Boulder model was designed to integrate science and practice by training psychologists in both endeavors. Concerns about the failure to effectively bridge science and practice soon emerged (see Frank, 1984), and it behooves family scientists to learn from such efforts as we examine what translational science has to offer.

> **Implication 1.** *Constructing an effective translational family science requires avoiding the pitfalls previously encountered at the interface of science and practice and building on training and execution models that have emerged in other areas of translational science (e.g., Ameredes et al.,* 2015; *Gonzales, Handley, Ackerman, & O'Sullivan,* 2012; *Rubio et al.,* 2010).

The present exploration of translational family science also takes place in the context of a long-standing and ongoing examination of the field of family science. Despite the early organizational success and accumulated literature noted earlier, in the 1980s, the status of the field as a discipline was questioned when it was argued that the study of families "depends for explanatory power on other disciplines" (Davis, 1984, p. 1; but see Burr, 1985, for a response). Prompted by circumstances that "created an 'identity problem' in the family field," Burr and Leigh (1983, p. 467) defended the disciplinary status of the field and labeled the discipline *famology* (Bailey & Gentry, 2013, provided a contemporary analysis of how the family field

meets Burr and Leigh's criteria for a discipline). A newsletter subsequently announced the establishment of a task force for the development of a family discipline (Burr, 1984), and within a few years family science was defined as "the field where the primary goals are the discovery, verification and application of knowledge about the family" (NCFR Task Force, 1988, p. 98). The training of family scientists was also later addressed (Ganong, Coleman, & Demo, 1995), but concerns about the multiplicity of discipline and department names has persisted (Hans, 2014). This has led to the recent warning that "without a clear and shared identity and nomenclature, the field seems likely to fade" (Gavazzi, Wilson, Ganong, & Zvonkovic, 2014, p. 335) and the creation of the NCFR Task Force on the Future of Family Science, formed in 2014, mandated to consider "questions about the name of the field. .. and expanding the reach and impact of the field to strengthen families" (NCFR, The Future of Family Science Task Force, 2014, p. 1). My examination of forgiveness and translational science has an important implication for this context, and hence I turn directly to it.

FORGIVENESS

In this article, the field of forgiveness research is used as a model to instantiate translational family science. This field provides a good exemplar because forgiveness is an inherently interpersonal construct central to family functioning that, like the field of family science, seeks to integrate the sciences of discovery and practice. As I turn the focus of this article to forgiveness, I begin by clarifying the nature of this complex construct.

Although forgiveness is a "goal commonly advocated by all of the world's long-standing religions" (Thoresen, Luskin, & Harris, 1998, p. 164), scientific research on forgiveness largely began to emerge in the 21st century. Only five studies on forgiveness were published before 1985 (Worthington, 1998), and an annotated bibliography on forgiveness in 1998 contained 46 studies (McCullough, Exline, & Baumeister, 1998). However, the exponential growth of the field since then continues unabated, and today hundreds of empirical studies exist on forgiveness.

Because it is a complex construct, considerable effort was expended initially on defining forgiveness, and disagreements permeated the

field for several years. By 2005, however, definitional controversy abated (Worthington, Van Oyen Witvliet, Pietrini, & Miller, 2007) with acceptance of the idea that forgiveness entails a freely chosen motivational change in which the desire to seek revenge or to avoid contact with the transgressor is overcome. This reduction in negativity (involving resentment-based motivation, cognition, and emotion) toward the transgressor has been accepted as the operational definition of forgiveness in the research literature. Researchers also agree that forgiveness is distinct from related constructs such as pardoning (granted only by a representative of society such as a judge), the spontaneous dissipation of resentment and ill will over time (to forgive is more than the passive removal of the offence from consciousness), forgetting (to forgive is more than not thinking about the offence), and condoning (no longer viewing the act as a wrong and removing the need for forgiveness). Finally, reconciliation (a dyadic process) should not be confused with forgiveness (an intrapersonal process), although forgiveness can, but need not necessarily, facilitate reconciliation (it is not contradictory to both forgive and end the relationship).

> **Implication 2.** *As illustrated, a multiplicity of perspectives is likely inevitable in a new scholarly endeavor. Views of translational family science different from what is captured in this special issue are to be expected. This will be healthy and will help avert premature closure, provided the field soon coalesces around a broadly accepted definition. Moving beyond the ongoing identity issue in family science will be helpful in realizing this outcome.*

Where is the relationship in all this? Forgiveness is inherently interpersonal in that it is "outward-looking and other-directed" (North, 1998) even though it occurs intrapersonally ("Forgiving happens ... inside our minds and hearts"; Smedes, 1996, p. 25). Yet research specifically on forgiveness in relationships emerged only after a considerable amount was learned about how factors such as demographics (e.g., sex, age), individual differences (e.g., personality dimensions), social-cognition (e.g., perceived intentionality), characteristics of the offence (e.g., degree of hurt), situational factors (e.g., extenuating circumstances), post transgression offender behavior (e.g., apology), and broader cultural factors (e.g., social norms)

influenced forgiveness (for reviews, see Fehr, Gelfand, & Nag, 2010; Miller, Worthington, & McDaniel, 2008; Riek & Mania, 2011).

As attention turned to forgiveness in ongoing relationships the question arose as to whether overcoming unforgiveness or the desire to seek revenge or to withdraw was sufficient. Reduced unforgiveness removes negativity but does not provide the approach motivation that might facilitate reconciliation. Noting that forgiveness entails "an attitude of real goodwill towards the offender as a person" (Holmgren, 1993, p. 342), it was proposed that this benevolence dimension is especially relevant to ongoing relationships because it provides a motivational foundation for relationship repair following a transgression (Fincham, 2000; Worthington, 2005). Indeed, there is some evidence that positive (benevolence) and negative (unforgiveness) dimensions of forgiveness have different correlates in close relationships (e.g., Carmody & Gordon, 2011; Fincham, Beach, & Davila, 2007); there are also data to show that some peripheral and central nervous system changes are unique to benevolence and do not simply reflect changes in unforgiveness (Worthington et al., 2007). Although the benevolence dimension of forgiveness is not entirely absent from general research on forgiveness (e.g., McCullough, Root, & Cohen, 2006), concerns about measuring forgiveness adequately in close relationships led to the development of relationship specific measures (e.g., the Marital Offence Forgiveness Scale; Paleari, Regalia, & Fincham, 2009).

> **Implication 3.** *The first level of translation in translational family science can involve moving from individually based, basic research to research on the construct in relationships or families. This is analogous to moving from in vitro to in vivo research in medicine and is sometimes described as T0 (the preclinical phase in translational medicine). As already illustrated, this level of translation may require fundamental changes to constructs when used in family research.*

FORGIVENESS IN RELATIONSHIPS (T1 TRANSLATION)

In contrast to T0, T1 can be conceptualized as forgiveness research in continuing or ongoing relationships. What determines forgiveness in such relationships and moderates its operation? Most importantly, how does it relate to

individual and relational well-being? Research addressing these issues has primarily taken place in the context of a recently emerged field focused on the study of close relationships. Although a clear definition and operationalization of close relationships was offered (see Berscheid, Snyder, & Omoto, 1989), a pragmatic approach became dominant in which legal (e.g., marriage), biological (e.g., family relationship), subjective (e.g., "close friend"), or temporal (e.g., dating for at least 3 months) definitions of close relationships were used. The field grew rapidly, spawning its own professional organizations and journals. By the turn of the 21st century, it had come of age, at which time Berscheid (1999, p. 260) celebrated what she called the "greening of relationship science."

Unfortunately, the fields of "relationship science" and "family science" exhibit limited interplay. The upshot is that forgiveness in emerging adult and adult romantic relationships (e.g., marriage) has received the lion's share of attention with limited attention being given to family relationships.

> **Implication 4.** *Translational family science should address the existence of relevant isolated, parallel literatures and be attractive to researchers in related disciplines who do not identify with family science. This would realize more fully true interdisciplinary and multidisciplinary collaborations that have the potential to ultimately give rise to a transdisciplinary field. Transdisciplinary research often emerges from interdisciplinary work and occurs "when discipline-transcending concepts, terminology, and methods evolve to create a higher level framework and a fundamental epistemological shift occurs (Austin, Park, & Goble,* 2008, *p. 557).*

The de facto operationalization of close relationships in relationship science has gone relatively unchallenged and generalizations about forgiveness in this field rarely test explicitly potential differences that might exist across varying forms of close relationships. Yet it is self-evident that family relationships differ from other close relationships in that they are nonvoluntary and are usually accompanied by a perceived obligation to continue the relationship. Moreover, there is some evidence that hurtful statements in such relationships are substantially more painful than those made in other types of relationships independent of relationship closeness and relationship satisfaction

(Vangelisti & Crumley, 1998). Taken together, these considerations may result in a forgiveness process in family relationships that has unique elements (see Carr & Wang, 2012).

> **Implication 5.** *Translational family science may need to consider the possibility that relationship phenomena uncovered in relationship science may operate differently in families. The absence of such differences should be explicitly examined rather than assumed. This observation reinforces the importance of integrating efforts across relationship science and family science (Implication 4).*

In turning to address the case for translating what is known about forgiveness to improve relationship well-being, translational family scientists will note that families are not limited to adult romantic relationships. What do we know, for example, about forgiveness in parent–child relationships? A handful of studies provide data relevant to this topic, but only a few involve children or adolescents (i.e., Hoyt, Fincham, McCullough, Maio, & Davila, 2005; Maio, Thomas, Fincham, & Carnelley, 2008; May, Kamble, & Fincham, 2015). This circumstance likely reflects the virtual absence of developmental research on forgiveness (see Fincham & Greer, in press, for a brief synopsis of forgiveness over the life course). This is somewhat surprising given rich conceptual analyses on the development of forgiveness (e.g., Enright, Gassin, & Wu, 1992) and the inclusion of chapters devoted to the topic in landmark texts on forgiveness (Denham, Neal, Wilson, Pickering, & Boyatzis, 2005; Mullet & Girard, 2000). Forgiveness in childhood is beginning to appear as a topic of research in the large literature on peer relationships (e.g., Flanagan, Van den Hoek, Ranter, & Reich, 2012; Van der Wal, Karremans, & Cillessen, 2016), which could stimulate study of child–parent forgiveness and forgiveness in other family relationships (e.g., sibling relationships). The need for research informed by developmental theory is apparent and will do much to further understanding of forgiveness in the parent–child relationship given its organismic nature.

> **Implication 6.** *A translational family science perspective makes evident glaring omissions in forgiveness research. Given only a few studies, there is little to "translate" in regard to the parent–child family relationship and nothing with regard to*

other family relationships (e.g., sibling relationships). Translational family science has the potential to stimulate remediation of this lacuna.

In turning back to forgiveness in adult romantic relationships, a preliminary concern for translational family science is whether forgiveness is even associated with relationship well-being. This can be addressed at both conceptual and empirical levels. A strong conceptual case can be made that the main function of forgiveness is to help "individuals preserve their valuable relationships" (McCullough, 2008, p. 116), and compelling arguments have been marshalled to support the view that "forgiveness systems evolved in response to selection pressures for restoring relationships that, on average, boosted lifetime reproductive fitness" (McCullough, Kurzban, & Tabak, 2011, p. 231). The philosopher Boleyn-Fitzgerald (2002) observed that forgiveness is "arguably the most important virtue for controlling anger" (p. 483), and the adverse effects of acute, and especially chronic, anger on individual and relationship well-being are well known. Such viewpoints are consistent with the value placed on forgiving in both secular and religious contexts. To many, the importance of forgiveness for relationship and individual well-being is self-evident.

In light of the foregoing, it is perhaps no surprise that a consistent, robust relationship has been documented between both forgiveness and unforgiveness and reported marital quality (see Fincham, 2010), with some indication of a more robust relationship for unforgiveness (Gordon, Hughes, Tomcik, Dixon, & Litzinger, 2009; Paleari et al., 2009). Longitudinal evidence suggests that marital quality predicts later forgiveness and that forgiveness also predicts later marital quality (Fincham & Beach, 2007; Paleari, Regalia, & Fincham, 2005). Such findings suggest that that there may be a bidirectional causal relationship between forgiveness and relationship satisfaction.

It has been suggested that forgiveness in relationships is driven by the intent to persist in a relationship or commitment (Finkel, Rusbult, Kumashiro, & Hannon, 2002), and, as might be expected, there is evidence to support this view. Two studies, however, offer longitudinal evidence to suggest that forgiveness also promotes increases in commitment (Tsang, McCullough, & Fincham, 2006; Ysseldyk & Wohl, 2012).

Braithwaite, Selby, and Fincham (2011) specifically investigated commitment and satisfaction together when examining the mechanism(s) linking forgiveness and relationship satisfaction both concurrently and longitudinally. Independent of commitment, they found two nonredundant mechanisms (conflict tactics and self-regulation) linking forgiveness to relationship satisfaction that parallel the positive and negative dimensions of motivational change posited to underlie forgiveness in relationships.

Forgiveness has been similarly linked to other important relationship features such as closeness (Karremans et al., 2011), trust (Weiselquist, 2009), and couple identity (more use of plural person pronouns in relationship discourse; Karremans & Van Lange, 2008), leaving little doubt that forgiveness likely influences relationship well-being and vice versa. Furthermore, family well-being likely benefits positively from forgiveness among family members given that forgiveness is also related to indices of mental health. For example, Riek and Mania (2011) found that in 22 studies involving 4,510 participants, a statistically significant inverse relationship emerged between forgiveness and depressive symptoms ($r = -.26$), anxiety ($r = -.18$), perceived stress ($r = -.23$), and negative affect ($r = -.47$). Higher levels of forgiveness were also related to greater life satisfaction ($r = .25$, 11 studies, 2,984 participants) and reported positive affect ($r = .32$, 9 studies, 1,502 participants).

FORGIVENESS INTERVENTIONS: EFFICACY (T2 TRANSLATION)

T1 research on forgiveness provides a strong mandate for translation into intervention programs, and there is a substantial literature on attempts to increase forgiveness. It would be disingenuous to imply that a linear translation took place, however. The intervention literature had a life of its own, spawning numerous models of forgiving (e.g., Enright, 2001; Luskin, 2007; Worthington, 2003) that were not empirically evaluated before they were used to guide intervention outcome research. This led to the attempt to induce forgiveness without knowing how it operates in everyday life. It is not inaccurate to conclude that the presumed benefits of forgiveness for well-being drove both basic research and intervention research and that work on intervention proceeded without waiting for relevant basic research to come to fruition. It

is also the case that insights from intervention informed basic research on forgiveness. Indeed, from the perspective of a positivistic philosophy of science, it can be argued that understanding a phenomenon is facilitated by causing change in it, as occurred in intervention research.

Notwithstanding the preceding circumstances, we now know a considerable amount about how to increase forgiveness, and empirically supported interventions exist, as will soon become apparent. The fact that intervention research on forgiving did not unfold in the most logical, efficient, and parsimonious manner yet still resulted in strong evidence-based interventions suggests the following implication.

> **Implication 7.** *Translational family science may not always exactly follow the "bench to bedside" metaphor in translational medicine. In some instances, such as that outlined for forgiveness, a most compelling conceptual case can be made for T2 research even in the absence of complete T1 data (or even its existence). Translational family science should be open to this possibility.*

Since Close (1970) first published a case study on forgiveness in counseling, a substantial literature on facilitating forgiveness has emerged. This work can be examined to determine proof of concept (whether it yields a sufficient basis to continue intervention efforts). An initial meta-analysis of this literature (Worthington, Sandage, & Berry, 2000) showed that across 14 studies (delivered to 393 participants), there was a linear dose–effect relationship for the effect sizes; clinically relevant interventions (defined as those of 6 or more hours in duration) produced a change in forgiveness that was reliably different from zero, with nonclinically relevant interventions (defined as 1 or 2 hours in duration) yielding a small but measurable change in forgiveness. A later meta-analysis of 27 studies delivering group interventions (Wade, Worthington, & Meyer, 2005) showed that although amount of time spent in the intervention predicted efficacy, intervention status (full vs. partial vs. no intervention) predicted outcome over and beyond intervention duration. A more recent meta-analysis of 21 group interventions (Rainey, Readdick, & Thyer, 2012) delivered to 1,060 participants again emphasized dosage as interventions lasting 6 or more hours were efficacious (Hedges's $g = 0.62$), with shorter interventions being less so. Interestingly, using a person's faith to facilitate forgiveness

was helpful (three studies, Hedges's $g = 0.79$), whereas encouraging conciliatory behavior with the transgressor was not.

A limitation of these meta-analyses is that the outcome investigated comprised forgiveness only (making it analogous to a manipulation check). Continued use of forgiveness interventions requires attention to whether increased forgiveness affects other important outcomes or end points. A meta-analysis of 16 studies (Lundhal, Taylor, Stevenson, & Roberts, 2008) using "process" models of forgiveness (forgiveness requires going through several different steps or phases) showed large effect sizes not only for increasing forgiveness (Hedges's $g = 0.82$) but also positive affect (Hedges's $g = 0.81$) as well as a moderately sized decrease in negative affect (Hedges's $g = 0.54$). Participants with elevated levels of distress benefitted more than those with lower distress levels and participants who received the intervention individually showed greater improvement than those who experienced group interventions.

The most recent meta-analysis (Wade, Hoyt, Kidwell, & Worthington, 2014), using 53 post-treatment effect sizes (for interventions from 1 to 57 hours) involving 2,323 participants who had received a forgiveness intervention for a specific hurt, showed not only that participants displayed greater forgiveness than nonparticipants (Becker's $\Delta = 0.56$) or those who received an alternative intervention (Becker's $\Delta = 0.45$), but that they also displayed fewer depressive (Becker's $\Delta = 0.34$, 10 studies) and anxiety (Becker's $\Delta = 0.63$, seven studies) symptoms as well as greater hope (Becker's $\Delta = 1.00$, six studies). Although the effect sizes did not statistically differ from those obtained for forgiveness, the effects of the intervention for reducing reported depressive and anxiety symptoms were 40% to 50% lower than for forgiveness. Overall, greater change in forgiveness was achieved in individual compared with group interventions and in interventions of longer duration (compared with no intervention but not alternative interventions), but the small number of studies involved did not allow testing of moderators for mental health indices.

The five meta-analyses mentioned are instructive, and Recine (2015) abstracted useful lessons offered by them for those interested in programs to facilitate forgiveness. The second edition of a text on forgiveness therapy also has been published 15 years after it first appeared (Enright &

Fitzgibbons, 2015), as have guidelines for what clinicians need to know to help clients forgive (Aalgaard, Bolen, & Nugent, 2016; Freedman & Zarifkar, 2016; for cautionary notes, see Wade, Johnson, & Meyer, 2008). The latter is important given Wade, Bailey, and Schaffer's (2005) observation that 75% of persons presenting at counseling centers who had experienced an interpersonal transgression wished to forgive the transgressor. In the present context, the following implication arises:

> **Implication 8.** *A translational science perspective makes clear the need to identify meaningful end points for forgiveness interventions. With proof of concept now well established, it is time to demonstrate why forgiveness intervention research is important for society and deserves public funding. Demonstrating self-reported increases in forgiveness and decreases in some self-reported psychological symptoms (e.g., anxiety) will not suffice to be taken seriously for public funding.*

One option for addressing the end point issue is to show how forgiveness interventions improve family functioning and associated end points (e.g., marital stability, better health). However, noting that participants in forgiveness interventions showed no improvement in their relationship with the perpetrator of the transgression, Lundhal et al. (2008) suggested that forgiveness interventions may "not be consistently better than no treatment in improving relationships" (p. 474). Besides confusing forgiveness with reconciliation, this conclusion counters clinical observations in which forgiveness emerges as critical for reconciliation after major relationship transgressions such as infidelity (see Baucom, Snyder, & Gordon, 2009), a viewpoint supported by survey data (Heintzelman, Murdock, Krycak, & Seay, 2014).

But do forgiveness interventions improve family relationships? Worthington, Jennings, and DiBlasio (2010) reviewed couple intervention studies ($n = 11$) and in several found improved relationship (e.g., intimacy, satisfaction, communication) and individual mental health outcomes (e.g., anger, anxiety, depression, and global symptoms). Although they drew the conclusion that "interventions to help couples have been found to be consistently effective" (p. 242), the literature reviewed was quite weak. For example, 4 of the 11 studies used samples of 10 or fewer couples and

overall the studies were underpowered. This might account for findings such as (a) improved couple communication after a forgiveness intervention without changes in forgiveness and (b) changes in forgiveness without changes in relationship outcomes (see Worthington et al., 2010). In light of these concerns, the adequately powered couple interventions included in Wade et al.'s (2014) meta-analysis assume particular importance. For example, Baskin et al. (2011) found that their intervention improved forgiveness ($d = 0.51$) and marital satisfaction ($d = 0.45$) and decreased depressive symptoms ($d = 0.34$), improvements that were maintained at 3.5-month follow-up. In a similar vein, Greenberg, Warwar, and Malcolm (2010) showed that changes in forgiveness were statistically correlated with improved marital satisfaction and trust in their study.

Again, however, the issue of end points that would command attention in the public arena remains and may reflect the relative lack of T1 research on forgiveness and health outcomes in family relationships. Although there is a robust inverse relationship between depressive symptoms and forgiveness in marriage (e.g., Kachadourian, Fincham, & Davila, 2005; Paleari et al., 2009, showed that it holds for both unforgiveness and forgiveness), and a similar link has been documented for 12- to 16-year-old children's forgiveness of a parent (Maio et al., 2008), the study of community samples using self-report measures continues to be problematic, especially in the absence of linking them to directly measurable end points such as work absenteeism or medical costs. Regarding physical health, only four studies have related forgiveness in relationships to health-relevant outcomes: namely, cortisol reactivity to imagined conflict discussions (Berry & Worthington, 2001), blood pressure 40 minutes after conflict (Hannon, Finkel, Kumashiro, & Rusbult, 2012), cardiovascular functioning (Fincham, May, & Sanchez-Gonzalez, 2015), and self-reported health (Lawler-Row, Hyatt-Edwards, Wuench, & Karremans, 2011). Problems with these studies and their scattered nature has led to the recommendation that "the first order of business for future research is to explicitly set out to investigate health outcomes of forgiveness in family relationships" (Fincham, 2015, p. 264).

> **Implication 9.** *Far greater sophistication is needed to establish T2 forgiveness research*

in translational family science. In particular, expertise from family scholars is needed (e.g., in deriving appropriate targets for intervention in different family relationships and identifying associated end points) and from experts in physical health (e.g., to ensure selection and competent assessment of meaningful biomarkers, health behaviors, and so on). The recent emergence of attention to health outcomes in the broader forgiveness literature may prove helpful here (see Touissaint, Worthington, & Williams, 2015) and needs to be accompanied by a similar focus on family outcomes (e.g., marital stability, father involvement in children's lives) facilitated by forgiveness.

Forgiveness Interventions: Effectiveness (T3 Translation)

As might be apparent from the preceding review, the nature of interventions used in efficacy trials varies widely. Given widespread misconceptions about what it means to forgive (e.g., to forgive requires one to condone the offence, is a sign of weakness, and so on), some intervention efforts have comprised brief, psychoeducation interventions (usually in groups). At the other end of the spectrum is the delivery of forgiveness interventions as intensive, longer term psychotherapy. Dosage clearly is related to intervention efficacy (0.1 *SD* increase in forgiveness for each hour of intervention; Wade et al., 2014), but tends to be confounded by offence severity as more severe offences tend to give rise to longer interventions. Such observations, along with lack of knowledge about the optimal time to intervene after an offence occurs and a host of other issues, appear to have mitigated against the next step in translational science: effectiveness or T3 research; that is, pragmatic trials that document what happens when interventions are implemented in real-world settings.

This circumstance is particularly notable given that the two forgiveness intervention programs with the most empirical support are available to the public as self-help materials. Specifically, Enright's 20-step process-model-based intervention has been available since 2001 (Enright, 2001), and Worthington's REACH Program has been available since 2003 (Worthington, 2003), long before their efficacy had been firmly established. In any event, the following implication arises:

Implication 10. *Translational science once again highlights a major gap in research on forgiveness and points to the need to evaluate the effectiveness of efficacious forgiveness interventions. Moreover, the translation of forgiveness interventions specifically for use by members of the general public points to an obvious question: Do these interventions improve well-being? Continued failure to address this question raises an ethical question.*

It appears that Worthington (2003) is turning to address the preceding question. In making a do-it-yourself workbook based on the REACH Program available for free on his website (as well as DVDs on how to run groups) and inviting researchers to conduct evaluation studies on the materials, it likely will not be long before some form of effectiveness data are available. Interestingly, Enright (2001) makes commercially available family guides to forgiveness education and forgiveness implementation in the home, but there is no indication of an interest in evaluating such manuals on his website.

It can be argued that the situation described here is at best analogous to making a drug available over the counter immediately after showing that it works in a clinical trial. Should it not first be made available only under medical supervision? This is a legitimate question when one recalls Bergin's (1963) observation that anything with the potential to help also has the potential to harm. We also know that insufficient dosage of a forgiveness intervention is ineffective and potentially iatrogenic (Wade, Worthington, & Meyer, 2005). Thus, if some people give up because of the pain involved in recalling the hurt, it is important to know this and identify personal characteristics that might predict it happening. This would facilitate accurate warning labels that clearly specify the boundary conditions of what is offered. Finally, if the self-help efforts are inert, this is also important to know so that peoples' resources are not wasted and can be channeled more appropriately. All these considerations suggest an ethical imperative to investigate these self-help formats of forgiveness interventions.

Before leaving consideration of real-world implementation, recall that (a) forgiveness interventions can be primarily psychoeducational, thereby highlighting their potential use in prevention and (b) practitioners in family science include family life educators who are well positioned to provide such psychoeducation. In contrast to many practitioners who wait for clients

to present at the office for treatment, family life educators often work with those who are not explicitly seeking help by reaching out to the community. This is a valuable service because persons who might benefit from forgiving may not seek help due to limited financial resources or geographic distance from mental health care providers. This leads to an important implication:

Implication 11. *In drawing on models in translational medicine, translational family science must avoid bias toward remediation over prevention. Similarly, this bias in the forgiveness intervention literature reviewed needs to be addressed.*

In turning to prevention, it is useful to distinguish among universal prevention, delivered to everyone in the population; selective prevention, delivered to subgroups of the population at somewhat elevated risk; and indicated preventive measures, delivered to persons known to be at high risk (Mrazek & Haggerty, 1994). Fincham (2015) built on such distinctions to provide a comprehensive framework for facilitating forgiveness that encompasses individual-, group-, and community-level preventive interventions. It is only at the indicated level where response to a specific transgression in the recipient's life is addressed. Universal prevention, realized through forgiveness information campaigns, and selective prevention, in the form of psychoeducation, are designed to create conditions propitious to consideration of forgiveness as a possible response when a transgression is experienced.

The only large-scale attempt to evaluate a community-based forgiveness campaign was recently conducted in a college setting over a 2-week period (Griffin et al., 2016). Assessments completed 2 weeks before the campaign and 2 weeks after its implementation showed not only increased forgiveness but also improved self-reported quality of relationships with roommates, peers, and teachers but not romantic partners or parents. This finding emphasizes the caution offered earlier about generalizing findings across relationships and the potentially unique nature of forgiveness in family relationships.

However, community-level interventions cannot be evaluated adequately by only assessing outcome for individuals. Because the community is the unit of intervention, changes at the community level also need to be addressed;

comprehensive evaluation entails examination of collectives and not only individuals. Yet how do we assess the community or organization? This is not the context in which to address such questions; it must suffice to refer readers to Fehr and Gelfand's (2012) analysis of a forgiving organization and what can be done to facilitate a "forgiveness climate" in the workplace. These considerations highlight a further implication:

Implication 12. *Viewing forgiveness research in close relationships through the lens of translational family science highlights yet another important omission—namely, the failure to examine forgiveness in relation to the emergent properties of systems. As forgiveness in families takes its place in translational family science it will be important to move beyond the study of dyadic family relationships to consider properties of the family (e.g., family climate) that transcend those of dyadic family relationships and of individual family members.*

Incorporating Empirical Evidence on Forgiveness into Practice (T4 Translation)

Grzywacz and Allen (2017) remind us of many ways to use empirical evidence to influence practice, including research-based policies (and sanctions if necessary) as well as professional guidelines, or position statements. The specific skills required to do so are less familiar to those who ply their trade in the T1 through T3 arenas, which may contribute to "why most clinical research is not useful" (Ioannidis, 2016, p. 1). Many researchers tend not to consider features that make research useful in the public domain (e.g., value for money) and recent concerns about transparency (trust), stimulated by public discussions about the replicability of research results including drug trials (e.g., "Trouble at the Lab," 2013; see Cicerone, 2015), exacerbate the task of ensuring legislation, policy, and so on are informed by empirical evidence.

Nonetheless, informing practice with empirical evidence on forgiveness is within the grasp of translational family science. The existence of a professional organization that oversees professional practice credentials (Certified Family Life Educator) makes it possible to immediately consider potential professional guidelines regarding forgiveness intervention that are informed by data. However, we should not lose sight of

efforts to inform public policy and institutions, especially in view of a conceptual analysis of how forgiveness can promote resilience in the context of human-caused and natural disasters and crises (Worthington et al., 2016). This analysis is informed by attempts to use forgiveness interventions in the wake of tragedies such as the Sierra Leone civil war (Toussaint, Peddle, Cheadle, Sellu, & Luskin, 2010) and the Rwandan genocide (Staub, Pearlman, Gubin, & Hagengimana, 2005). In light of such analyses, it is easy to imagine how a forgiveness component could be built into societal responses to disasters.

What about building empirically based practice regarding forgiveness into the functioning of social institutions that affect families? Given the strong link between forgiveness and religious traditions and the fact that more than three quarters of the world population profess a religious faith (Fincham & Beach, 2013), it is natural to turn to religious institutions. Magnuson and Enright (2008) outlined how the Church can function as a forgiving community. Consistent with the vision of forgiving communities offered, Enright and his colleagues have also introduced psychoeducational forgiveness interventions into elementary schools (e.g., Holter, Magnuson, Knutson, Knutson-Enright, & Enright, 2008). Although curricula for pre-kindergarten through 12th grade are available, their widespread adoption is not apparent.

The legal system might also be targeted given interest in forgiveness in both criminal (e.g., Nygaard, 1997) and civil (e.g., Feigenson, 2000) contexts. Here it is worth noting the rise of problem-solving courts, especially community courts, that use judicial authority to solve legal and nonlegal problems and consider outcomes that go beyond mere application of the law. Denckla (2000) described the role and impact of forgiveness in problem-solving courts, and Fincham (2015) noted that it would be helpful to index the degree to which forgiveness operates in particular courts and relate this to relevant outcomes (e.g., recidivism), and compare jurisdictions in which such courts do and do not operate.

An even more amenable target may be restorative justice programs, especially those that include as a component victim–offender mediation (VOM). Emerging in Canada in the 1970s, there are now hundreds of VOM programs throughout the world (focused largely on juvenile offenders and therefore particularly relevant to families), evaluation of which yields salutary findings, including participant satisfaction, perceived fairness of restitution agreements, restitution completion, and recidivism (Umbreit, Coates, & Vos, 2004). Forgiveness is not an explicit goal of such programs, but they allow for it to occur. By allowing for forgiveness, such programs empower the victim and allow the perpetrator to be affirmed both by the victim and the community as a person of worth and to regain—or for many, gain for the first time—their respect and be reintegrated, or integrated, into society.

Although forgiveness in VOM is tricky because its explicit mention may "pressure and prescribe behavior for victims" (Umbreit, 2001, p. 25), there is no reason why empirical data on the conditions that facilitate forgiveness could not be built into VOM and restorative justice programs more generally. Some might counter that forgiving subverts the course of justice and that when forgiveness occurs justice is not served. Certainly attention to forgiveness in legal contexts is not without danger. However, a detailed analysis of the justice–forgiveness relationship adduces both logic and data to show that justice and forgiveness are positively related and that each might facilitate the other (Fincham, 2009).

Cautionary Notes

Before concluding how translational family science and forgiveness might enrich each other, two important assumptions need to be made explicit and carefully examined. First, research on forgiveness tends to assume that forgiveness is salutary, but there is also a potentially dark side to it. Recalling that forgiveness is a motivated behavior reminds us that, like all motivated behavior, it can arise from good and bad motives. Thus, communicated forgiveness can be used strategically to manipulate other family members, to convey contempt, to engage in one-upmanship, and the like. In a similar vein, verbal statements of forgiveness may not reflect true feelings. Stated forgiveness without accompanying internal changes has been labeled *hollow forgiveness* (Baumeister, Exline, & Sommer, 1998); it should not be confused with genuine forgiveness and may result in different outcomes.

It is also the case that forgiveness can be poorly executed. For example, forgiveness may be communicated in a manner that puts down

the offending partner or explicitly elevates the forgiver as morally superior to the partner. Likewise, if there is disagreement about whether a transgression has occurred, statements of forgiveness may be seen as accusatory. Finally, genuinely motivated statements of forgiveness can also be problematic because forgiveness is not instantaneous but occurs over time, a circumstance that can lead to problems when the offending family member takes another family member's statement of forgiveness literally rather than as a promissory note ("I am trying to forgive you"). When hurt feelings regarding the transgression arise subsequently, the offending family member may experience confusion or anger if he or she believed that the matter had been previously resolved, and conflict may ensue.

A family member might also forgive a relationship hurt without verbally communicating such forgiveness or even saying anything about the hurt to the other person. In such cases, it is quite possible that the partner infers that his or her hurtful behavior is acceptable. McNulty (2008) suggested that by removing aversive stimuli experienced by the transgressor (e.g., feelings of guilt or remorse), forgiveness may sometimes increase the likelihood of future hurtful behavior. Consistent with this viewpoint, he demonstrated that less forgiving spouses experienced declines in partner psychological and physical aggression over the first 4 years of marriage, whereas more forgiving spouses actually experienced stable or growing levels of psychological and physical aggression (McNulty, 2010). McNulty (2008) may have been correct in viewing the withholding of forgiveness as a means of regulating partner behavior, but it is also possible to regulate partner behavior by accompanying forgiveness with a clear and unequivocal statement from the victim that the hurtful behavior is unacceptable and will not be tolerated in the future. It thus remains unclear whether McNulty's (2008, 2010) findings reflect forgiveness per se, its execution, or even a flawed understanding of forgiveness (condoning the offence). The last possibility may account for the troubling finding that victims of domestic violence in shelters who forgive the offending partner reported being more likely to return to them (Gordon, Burton, & Porter, 2004). Some relationships are simply not healthy and should be terminated, and there is no contradiction in simultaneously ending

such relationships and engaging in forgiveness. This leads to a penultimate implication:

> **Implication 13.** *Both potential harm and potential benefit need to be considered in translational family science on forgiveness. Given such considerations, it can only be safely assumed that "forgiveness plays an important salutary role in* amicable *family relationships" (Fincham, 2015, p. 266; emphasis added).*

The second assumption that needs to be addressed concerns the ultimate goal of a translational family science. As Grzywacz and Allen (2017) note, "the central focus of translational family science is family well-being" (p. x). Laudable as it is, it is hard to imagine any disagreement with this goal. However, social science research has tended to focus on the negative (in reaction to which a new field of positive psychology has recently emerged). In research on families, DeFrain and Asay (2007) captured this state of affairs in their observation that "most of the research in the 20th Century in America focused on why families fail" (p. 302). Research in the broader field of close relationships has offered little to counterbalance this focus because little attention has focused on identifying optimal or flourishing intimate relationships or the conditions that lead to them. Fincham and Beach (2010) addressed this issue by offering a model of relationship flourishing, and the first volume specifically focused on optimal relationships was recently published in the field of relationship science (Knee & Reis, 2016).

Why does this matter? It matters because well-being or health is not the absence of ill-being or illness. There is no doubt that translational family science would make valuable contributions simply by following the well-worn path of viewing family well-being as the absence of dysfunction. However, there is an opportunity to do more than this, leading to my last implication:

> **Implication 14.** *A newly established translational family science will develop simultaneously with a new focus on optimal relationships in relationship science. It should be informed by and inform this new area of study. Given that attention has been drawn to the issue of flourishing relationships in family science (Fincham & Beach, 2010), it also has the potential to lead to advances in family science.*

A great deal of ground has been traversed in exploring translational family science and forgiveness in relation to each other. What has emerged is at best a promissory note, but one that has great potential not only for enriching translational family science but also forgiveness research. Where appropriate, lessons that can be learned from the examination of forgiveness in a relationship context were highlighted for translational family science, and an analogy with T0 translation in translational medicine was identified. Conversely, the lens of translational family science was instrumental in identifying much-needed work on forgiveness. It is hoped that the present analysis will lead to a healthy symbiotic relationship between translational family science and research on forgiveness in relationships. In any event, there appears to be a brave new world ripe for exploration (for a contrasting perspective, see Hamon & Smith, 2017) and whether the incomplete map offered in this article leads to its exploration remains to be seen.

References

Aalgaard, R. A., Bolen, R. M., & Nugent, W. R. (2016). A literature review of forgiveness as a beneficial intervention to increase relationship satisfaction in couples therapy. *Journal of Human Behavior in the Social Environment*, *26*, 46–55. https://doi.org/10.1080/10911359.2015.1059166

Aldous, J., & Hill, R. (1967). *International bibliography of research in marriage and the family, 1960–1964*. Minneapolis: University of Minnesota Press.

Ameredes, B. T., Hellmich, M. R., Cestone, C. M., Wooten, K. C., Ottenbacher, K. J., Chonmaitree, T. . . . Brasier, A. R. (2015). The multidisciplinary translational team (MTT) model for training and development of translational research investigators. *Clinical Translational Science*, *8*, 533–541. https://doi.org/10.1111/cts.12281

Austin, W., Park, C., & Goble, E. (2008). From interdisciplinary to transdisciplinary research: A case study. *Qualitative Health Research*, *18*, 557–564. https://doi.org/10.1177/1049732307308514

Bailey, S. J., & Gentry, D. B. (2013). Teaching about family science as a discipline. In G. W. Peterson & K. R. Bush (Eds.), *Handbook of marriage and the family* (3rd ed., pp. 861–883). New York, NY: Springer. https://doi.org/10.1007/978-1-4614-3987-5_35

Baskin, T. W., Rhody, M., Schoolmeesters, S., & Ellingson, C. (2011). Supporting special-needs adoptive couples: Assessing an intervention to enhance forgiveness, increase marital satisfaction, and prevent depression. *The Counseling Psychologist*, *39*, 933–955. https://doi.org/10.1177/0011000010397554

Baucom, D. H., Snyder, D. K., & Gordon, K. C. (2009). *Helping couples get past the affair: A clinician's guide*. New York, NY: Guilford Press.

Baumeister, R. F., Exline, J. J., & Sommer, K. L. (1998). The victim role, grudge theory, and two dimensions of forgiveness. In E. L. Worthington (Ed.), *Dimensions of forgiveness: Psychological research and theological perspectives* (pp. 79–106). Philadelphia, PA: Templeton Press.

Bergin, A. E. (1963). The effects of psychotherapy: Negative results revisited. *Journal of Counseling Psychology*, *10*, 244–250. https://doi.org/10.1037/h0043353

Berry, J. W., & Worthington, E. L. (2001). Forgivingness, relationship quality, stress while imagining relationship events, and physical and mental health. *Journal of Counseling Psychology*, 4, 447–455. https://doi.org/10.1037/0022-0167.48.4.447

Berscheid, E. (1999). The greening of relationship science. *American Psychologist*, *54*, 260–266. https://doi.org/10.1037/0003-066X.54.4.260

Berscheid, E., Snyder, M., & Omoto, A.M. (1989). The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology*, *57*, 792–807 https://doi.org/10.1037/0022-3514.57.5.792

Braithwaite, S., Selby, E., & Fincham, F. D. (2011). Forgiveness and relationship satisfaction: Mediating mechanisms. *Journal of Family Psychology*, *25*, 551–555. https://doi.org/10.1037/a0024526

Boleyn-Fitzgerald, P. (2002). What should "forgiveness" mean? *The Journal of Values Inquiry*, *36*, 483–498. https://doi.org/10.1023/A:1021929531830

Burr, W. R. (1984, December). *Task force activities report. Task Force for the Development of a Family Discipline.* Minneapolis, MN: NCFR.

Burr, W. R. (1985, March). *Some thoughts about types of disciplines and what the family field is and ought to be.* Minneapolis, MN: NCFR.

Burr, W. R., Hill, R., Nye, F. I., & Reiss, I. L. (1979). Contemporary theories about the family. New York, NY: Free Press.

Burr, W. R., & Leigh, G. K. (1983). Famology: A new discipline. *Journal of Marriage and the Family*, *45*, 467–480. https://doi.org/10.2307/351653

Carmody, P., & Gordon, K. (2011). Offender variables: Unique predictors of benevolence, avoidance, and revenge? *Personality and Individual Differences*, *50*, 1012–1017. https://doi.org/10.1016/j.paid.2010.12.037

Carr, K., & Wang, T. R. (2012). Forgiveness isn't a simple process: It's a vast undertasking":

Negotiating and communicating forgiveness in nonvoluntary family relationships. *Journal of Family Communication*, *12*, 40–56. https://doi.org/10.1080/15267431.2011.629970

Christensen, H. T. (1964). Development of the family field of study. In H. T. Christensen (Ed.), *Handbook of marriage and the family* (pp. 3–32). Chicago, IL: Rand McNally.

Cicerone, R. J. (2015, April). *Research reproducibility, replicability, reliability*. Paper presented at Presented at the National Academy of Sciences' 152nd Annual Meeting. Retrieved from http://www.nasonline.org/about-nas/leadership/president/2015-presidents-address.pdf

Close, H. T. (1970). Forgiveness and responsibility: A case study. *Pastoral Psychology*, *21*, 19–25.

Davis, K. (1984, August). *The study of marriage and the family as a scientific discipline*. Paper presented at the Annual Conference of the American Sociological Association, San Antonio, TX.

DeFrain, J., & Asay, S. M. (2007). Family strengths and challenges in the USA. *Marriage and Family Review*, *41*, 281–307. https://doi.org/10.1300/J002v41n03 04

Denckla, D. A. (2000). Forgiveness as a problem-solving tool in the courts: A brief response to the panel on forgiveness in criminal law. *Fordham Urban Law Journal*, *27*, 1613–1619.

Denham, S. A., Neal, K., Wilson, B. J., Pickering, S., & Boyatzis, C. J. (2005). Emotional development and forgiveness in children: Emerging evidence. In E. L. Worthington (Ed.) *Handbook of forgiveness*. New York, NY: Routledge.

Enright, R. D. (2001). *Forgiveness is a choice: A step-by-step process for resolving anger and restoring hope*. Washington, DC: American Psychological Association.

Enright, R. D., Gassin, E. A., & Wu, C. R. (1992). Forgiveness: A developmental view. *Journal of Moral Education*, *21*, 99–114. https://doi.org/10.1080/0305724920210202

Enright, R. D., & Fitzgibbons, R. P. (2015). *Forgiveness therapy: An empirical guide for resolving anger and restoring hope* (2nd ed.). Washington, DC: American Psychological Association. https://doi.org/10.1037/14526-000

Fehr, R., & Gelfand, M. J (2012). The forgiving organization: A multilevel model of forgiveness at work. *Academy of Management Review*, *37*, 644–688. https://doi.org/10.5465/amr.2010.0497

Fehr, R., Gelfand, M. J, & Nag, M. (2010). The road to forgiveness: A meta-analytic synthesis of its situational and dispositional correlates. *Psychological Bulletin*, *136*, 894–914. https://doi.org/10.1037/a0019993

Feigenson, N. R. (2000). Merciful damages: Some remarks on forgiveness, mercy and tort law. *Fordham Urban Law Journal*, *27*, 1633–1649.

Fincham, F. D. (2000). The kiss of the porcupines: From attributing responsibility to forgiving. *Personal Relationships*, *7*, 1–23. https://doi.org/10.1111/j.1475-6811.2000.tb00001.x

Fincham, F. D. (2009). Forgiveness: Integral to close relationships and inimical to justice? *Virginia Journal of Social Policy and the Law*, *16*, 357–384.

Fincham, F. D. (2010). Forgiveness: Integral to a science of close relationships? In M. Mikulincer & P. Shaver (Eds.) *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 347–365). Washington, DC: American Psychological Association.

Fincham, F. D. (2015). Forgiveness, family relationships and health. In L. Toussaint, E. L. Worthington Jr., & D. Williams (Eds.), *Forgiveness and health: Scientific evidence and theories relating forgiveness to better health*. New York, NY: Springer. https://doi.org/10.1007/978-94-017-9993-5_17

Fincham, F. D., & Beach, S. R. H. (2007). Forgiveness and marital quality: Precursor or consequence in well-established relationships. *Journal of Positive Psychology*, *2*, 260–268. https://doi.org/10.1080/17439760701552360

Fincham, F. D., & Beach, S. R. H. (2010). Of memes and marriage: Towards a positive relationship science. *Journal of Family Theory and Review*, *2*, 4–24. https://doi.org/10.1111/j.1756-2589.2010.00033.x

Fincham, F. D., & Beach, S. R. H. (2013). Can religion and spirituality enhance prevention programs for couples? In K. I. Pargament (Ed.), *APA handbook of psychology, religion, and spirituality* (pp. 461–479). Washington, DC: American Psychological Association. https://doi.org/10.1037/14046-024

Fincham, F. D., Beach, S. R. H., & Davila, J. (2007). Longitudinal relations between forgiveness and conflict resolution in marriage. *Journal of Family Psychology*, *21*, 542–545. https://doi.org/10.1037/0893-3200.21.3.542

Fincham, F. D., & Greer, M. (in press). Forgiveness. In *The SAGE encyclopedia of lifespan human development*. Newbury Park, CA: Sage.

Fincham, F. D., May, R., & Sanchez-Gonzalez, M. (2015). Forgiveness and cardiovascular functioning in married couples. *Couple and Family Psychology: Research and Practice, 4*, 39–48. https://doi.org/10.1037/cfp0000038

Finkel, E. J., Rusbult, C. E., Kumashiro, M., & Hannon, P. A. (2002). Dealing with betrayal in close relationships: Does commitment promote forgiveness? *Journal of Personality and Social Psychology*, *82*, 956-974. https://doi.org/10.1037/0022-3514.82.6.956

Flanagan, K. S., Van den Hoek, K. K., Ranter, J. M., & Reich, H. A. (2012). The potential of forgiveness

as a response for coping with negative peer experiences. *Journal of Adolescence*, *35*, 1215–1223. https://doi.org/10.1016/j.adolescence.2012.04.004

Frank, G. (1984). The Boulder model: History, rationale and critique. *Professional Psychology: Research and Practice*, *15*, 417–435. https://doi.org/10.1037/0735-7028.15.3.417

Freedman, S., & Zarifkar, T. (2016). The psychology of interpersonal forgiveness and guidelines for forgiveness therapy: What therapists need to know to help their clients forgive. *Spirituality in Clinical Practice*, *3*, 45–58. https://doi.org/10.1037/scp0000087

Ganong, L. H., Coleman, M., & Demo, D. H. (1995). Issues in training family scientists. *Family Relations*, *44*, 501–507. https://doi.org/10.2307/585004

Gavazzi, S. M., Wilson, S. M., Ganong, L., & Zvonkovic A. (2014). Furthering the conversation on the future of the discipline of family science: Comments on the articles by Hamon & Smith and Hans. *Family Relations*, *63*, 333–342. https://doi.org/10.1111/fare.12076

Gonzales R, Handley M. A., Ackerman, S., & O'Sullivan, P. S. (2012). Increasing the translation of evidence into practice, policy, and public health improvements: A framework for training health professionals in implementation and dissemination science. *Academic Medicine*, *87*, 271–278. https://doi.org/10.1097/ACM.0b013e3182449d33

Gordon, K. C., Burton, S., & Porter, L. (2004). Predicting the intentions of women in domestic violence shelters to return to partners: Does forgiveness play a role? *Journal of Family Psychology*, *18*, 331–338. https://doi.org/10.1037/0893-3200.18.2.331

Gordon, K. C., Hughes, F. M., Tomcik, N. D., Dixon, L. J., & Litzinger, S. C. (2009). Widening spheres of impact: The role of forgiveness in marital and family functioning. *Journal of Family Psychology*, *23*, 1–13. https://doi.org/10.1037/a0014354

Gottman, J. M. (1979). *Marital interaction: Experimental investigations*. New York, NY: Academic Press.

Greenberg, L., Warwar, S., & Malcolm, W. (2010). Emotion-focused couples therapy and the facilitation of forgiveness. *Journal of Marital and Family Therapy*, *36*, 28–42. https://doi.org/10.1111/j.1752-0606.2009.00185.x

Griffin, B. J., Toussaint, L. L., Worthington, E. L., Jr., Coleman, J. A., Lavelock, C. R., McElroy, A. P. . . . Rye, M. S. (2016). *Evaluating the effectiveness of a community-based forgiveness campaign*. Manuscript submitted for publication.

Grzywacz, J. G., & Allen, J. W. (2017). Adapting the ideas of translational science for translational family science. *Family Relations*, *66*, 568–583. https://doi.org/10.1111/fare.12284

Hamon, R., & Smith, S. R. (2014). The discipline of family science and the continuing need for innovation. *Family Relations*, *63*, 309–322. https://doi.org/10.1111/fare.12068

Hamon, R. R., & Smith, S. R. (2017). Family science as translational science: A history of the discipline. *Family Relations*, *66*, 550–567. https://doi.org/10.1111/fare.12273

Hannon, P. A., Finkel, E. J., Kumashiro, M., & Rusbult, C. E. (2012). The soothing effects of forgiveness on victims' and perpetrators' blood pressure. *Personal Relationships*, *19*, 279–289. https://doi.org/10.1111/j.1475-6811.2011.01356.x

Hans, J. D. (2014). Whither famology? Department name trends across four decades. *Family Relations*, *63*, 323–332. https://doi.org/10.1111/fare.12075

Heintzelman, A., Murdock, N. L., Krycak, R. C., & Seay, L. (2014). Recovery from infidelity: Differentiation of self, trauma, forgiveness, and posttraumatic growth among couples in continuing relationships. *Couple and Family Psychology: Research and Practice*, *3*, 13–29. https://doi.org/10.1037/cfp0000016

Hollinger, M. A. (2002). Family science: Historical roots, theoretical foundations, and disciplinary identity. *Journal of Teaching in Marriage and Family*, *2*, 299–328. https://doi.org/10.1300/J226v02n03_03

Holmgren, M. R. (1993). Forgiveness and the intrinsic value of persons. *American Philosophical Quarterly*, *30*, 342–352.

Holter, A. C., Magnuson, C. M., Knutson, C., Knutson-Enright, J., & Enright, R. D. (2008). The forgiving child: The impact of forgiveness education on excessive anger for elementary-aged children in Milwaukee's central city. *Journal of Research in Education*, *18*, 82–93.

Hoyt, W. T., Fincham, F., McCullough, M. E., Maio, G. & Davila, J. (2005). Responses to interpersonal transgressions in families: Forgivingness, forgivability, and relationship-specific effects. *Journal of Personality and Social Psychology*, *89*, 375–394. https://doi.org/10.1037/0022-3514.89.3.375

Ioannidis, J. P. A. (2016). Why most clinical research is not useful. *PLOS Medicine*, *13*(6), e1002049. https://doi.org/10.371/journal.pmed.1002049

Jacob, T. (1987). Family interaction and psychopathology: Historical overview. In T. Jacob (Ed.), *Family interaction and psychopathology* (pp. 3–22). New York, NY: Plenum Press.

Kachadourian, L. K., Fincham, F. D., & Davila, J. (2004). The tendency to forgive in dating and married couples: Association with attachment and relationship satisfaction. *Personal Relationships*, *11*, 373–393. https://doi.org/10.1111/j.1475-6811.2004.00088.x

Karremans, J. C., Regalia, C., Paleari, F. G., Fincham, F. D., Cui, M., Takada, N. . . . Cross, S. (2011). Maintaining harmony across the globe:

The cross-cultural association between closeness and interpersonal forgiveness. *Social Psychological and Personality Science*, *2*, 443–451. https://doi.org/10.1177/1948550610396957

Karremans, J. C., & Van Lange, P. A. M. (2008). The role of forgiveness in shifting from "me" to "we." *Self and Identity*, *7*, 75–88. https://doi.org/10.1080/15298860601182435

Knee, C. R., & Reis, H. T. (Eds.). (2016). *Positive approaches to optimal relationship development*. Cambridge, England: Cambridge University Press.

Lawler-Row, K. A., Hyatt-Edwards, L., Wuench, K. L., & Karremans, J. C. (2011). Forgiveness and health: The role of attachment. *Personal Relationships*, *18*, 170–183. https://doi.org/10.1111/j.1475-6811.2010.01327.x

Lundahl, B. W., Taylor, M. J., Stevenson, R., & Roberts, K. D. (2008). Process-based forgiveness interventions: A meta-analytic review. *Research on Social Work Practice*, *18*, 465–478. https://doi.org/10.1177/1049731507313979

Luskin, F. (2007). *Forgive for love: The missing ingredient for a healthy and lasting relationship*. San Francisco, CA: HarperOne/HarperCollins.

Magnuson, C. M., & Enright, R. D. (2008). The Church as a forgiving community: An initial model. *Journal of Psychology and Theology*, *36*, 114–123.

Maio, G. R., Thomas, G., Fincham, F. D., & Carnelley, K. (2008). Unraveling the role of forgiveness in family relationships. *Journal of Personality and Social Psychology*, *94*, 307–319. https://doi.org/10.1037/0022-3514.94.2.307

May, R. W., Kamble, S., & Fincham, F. D. (2015). Forgivingness, forgivability, and relationship-specific effects in responses to transgressions in Indian families. *Family Relations*, *64*, 332 –346. https://doi.org/10.1111/fare.12114

McCullough, M. E. (2008). *Beyond revenge: The evolution of the forgiveness instinct*. San Francisco, CA: Jossey-Bass.

McCullough, M. E., Exline, J. J., & Baumeister, R. F. (1998). An annotated bibliography of research on forgiveness and related concepts. In E. L. Worthington (Ed.), *Dimensions of forgiveness: Psychological research and theological perspectives* (pp. 193–317). Philadelphia, PA: Templeton Press.

McCullough, M. E., Kurzban, R., & Tabak, B. A. (2010). Evolved mechanisms for revenge and forgiveness. In P. R. Shaver & M. Mikulincer (Eds.), *Human aggression and violence* (pp. 221–239). Washington, DC: American Psychological Association.

McCullough, M. E., Pargament K. I., & Thoresen C. E. (Eds.). (2000). *Forgiveness: Theory, research and practice*. New York, NY: Guilford Press.

McCullough, M. E., Root, L. M., & Cohen, A. D. (2006). Writing about the benefits of an interpersonal transgression facilitates forgiveness. *Journal of Consulting and Clinical Psychology*, *74*, 887–897. https://doi.org/10.1037/0022-006X.74.5.887

McNulty, J. K. (2008). Forgiveness in marriage: Putting the benefits into context. *Journal of Family Psychology*, *22*, 171–175. https://doi.org/10.1037/0893-3200.22.1.171

McNulty, J. K. (2010). Forgiveness increases the likelihood of subsequent partner transgressions in marriage. *Journal of Family Psychology*, *24*, 787–790. https://doi.org/10.1037/a0021678

Miller, A., Worthington, E., Jr., & McDaniel, M. (2008). Gender and forgiveness: A meta-analytic review and research agenda. *Journal of Social & Clinical Psychology*, *27*, 843–876. https://doi.org/10.1521/jscp.2008.27.8.843

Mrazek, P. J., & Haggerty, R. J. (Eds.). (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.

Mullet, E., & Girard, M. (2000). Developmental and cognitive points of view on forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research and practice* (pp. 111–132). New York, NY: Guilford Press.

National Council on Family Relations, Task Force on the Development of the Family Discipline. (1988). What is family science? *Family Science Review*, *1*, 87–101.

National Council on Family Relations, The Future of Family Science Task Force. (2014). *Task force charter form*. Minneapolis, MN: National Council on Family Relations.

North, J. (1998). The "ideal" of forgiveness: A philosopher's exploration. In R. D. Enright & J. North (Eds.), *Exploring forgiveness* (pp. 15–45). Madison: University of Wisconsin Press.

Nygaard, R. L. (1997). On the role of forgiveness in criminal sentencing. *Seton Hall Law Review*, *27*, 980–1022.

Paleari, F. G., Regalia, C., & Fincham, F. D. (2005). Marital quality, forgiveness, empathy, and rumination: A longitudinal analysis. *Personality and Social Psychology Bulletin*, *31*, 368–378. https://doi.org/10.1177/0146167204271597

Paleari, F. G, Regalia, C., & Fincham, F. D. (2009). Measuring offence-specific forgiveness in marriage: The Marital Offence-specific Forgiveness Scale (MOFS). *Psychological assessment*, *21*, 194–209. https://doi.org/10.1037/a0016068

Rainey, C. A., Readdick, C. A., & Thyer, B. A. (2012). Forgiveness-based group therapy: A meta-analysis of outcome studies published from 1993–2006. *Best Practices in Mental Health*, *8*, 29–51.

Recine, A.D., (2015). Designing forgiveness interventions: Guidance from five meta-analyses. *Journal of Holistic Nursing*, *33*, 161-167. https://doi.org/10.1177/0898010114560571.

Riek, B. M., & Mania, E. W. (2012). The antecedents and consequences of interpersonal forgiveness: A meta-analytic review. *Personal Relationships*, *19*, 304–325. https://doi.org/10.1111/j.1475-6811.2011.01363.x

Rubio, D. M., Schoenbaum, E. E., Lee, L.S., Schteingart, D.E., Marantz, P. R. . . . Esposito, K. (2010). Defining translational research: Implications for training. *Academic Medicine*, *85*, 470–475. https://doi.org/10.1097/ACM.0b013e3181ccd618

Smedes, L. B. (1996). *The art of forgiving*. New York, NY: Moorings.

Staub, E., Pearlman, L.A., Gubin, A., & Hagengimana, A. (2005). Healing, reconciliation, forgiving and the prevention of violence after genocide or mass killing: An intervention and its experimental evaluation in Rwanda. *Journal of Social and Clinical Psychology*, *24*, 297–334. https://doi.org/10.1521/jscp.24.3.297.65617

Thoresen, C. E., Luskin, F., & Harris, A. H. S. (1998). Science and forgiveness interventions: Reflections and recommendations. In E. L. Worthington (Ed.), *Dimensions of forgiveness* (pp. 321–340). Philadelphia, PA: Templeton Foundation Press.

Toussaint, L. L., Peddle, N., Cheadle, A., Sellu, A., & Luskin, F. (2010). Striving for peace through forgiveness in Sierra Leone. In A. S. Kalayjian & D. Eugene (Eds.), *Mass trauma and emotional healing around the world: Rituals and practices for resilience and meaning-making* (Vol. *2*, pp. 251–267). Santa Barbara, CA: ABC-CLIO.

Toussaint, L. L., Worthington, E. L., & Williams, D. R. (Eds.). (2015). *Forgiveness and health: Scientific evidence and theories relating forgiveness to better health*. New York, NY: Springer. https://doi.org/10.1007/978-94-017-9993-5

Trouble at the lab. (2013, October 19–25). *The Economist*. Retrieved from http://www.economist.com/news/riefing/21588057-scientists-think-science-selfcorrecting-alarming-degree-it-not-trouble

Tsang, J., McCullough, M., & Fincham, F. D. (2006). Forgiveness and the psychological dimension of reconciliation: A longitudinal analysis. *Journal of Social and Clinical Psychology*, *25*, 404–428. https://doi.org/10.1521/jscp.2006.25.4.448

Umbreit, M. S. (2001). *The handbook of victim offender mediation: An essential guide to practice and research*. San Francisco, CA: Jossey-Bass.

Umbreit, M. S., Coates, R., & Vos, B. (2004). Victim–offender mediation: Three decades of practice and research. *Conflict Resolution Quarterly*, *22*, 279–303. https://doi.org/10.1002/crq.102

Van der Wal, R. C., Karremans, J. C., & Cillessen, A. H. N. (2016). Interpersonal forgiveness and psychological well-being in late childhood. *Merrill-Palmer Quarterly*, *62*, 1–21. https://doi.org/10.13110/merrpalmquar1982.62.1.0001

Vangelisti, A. L., & Crumley, L. P. (1998). Reactions to messages that hurt: The influence of relational contexts. *Communication Monographs*, *65*, 173–196. https://doi.org/10.1080/03637759809376447

Wade, N. G., Bailey, D.C., & Shaffer, P. (2005). Helping clients heal: Does forgiveness make a difference? *Professional Psychology: Research and Practice*, *36*, 634–641. https://doi.org/10.1037/0735-7028.36.6.634

Wade, N. G., Hoyt, W. T., Kidwell, J. E. M., & Worthington, E. L., Jr. (2014). Efficacy of psychotherapeutic interventions to promote forgiveness: A meta-analysis. *Journal of Consulting and Clinical Psychology*, *82*, 154–170. https://doi.org/10.1037/a0035268

Wade, N. G., Johnson, C. V., & Meyer, J. E. (2008). Understanding concerns about interventions to promote forgiveness: A review of the literature. *Psychotherapy*, *45*, 88–102. https://doi.org/10.1037/0033-3204.45.1.88

Wade, N. G., Worthington, E. L., Jr., & Meyer, J. E. (2005). But do they work? A meta-analysis of group interventions to promote forgiveness. In E. L. Worthington Jr. (Ed.), *Handbook of forgiveness* (pp. 423–440). New York, NY: Routledge.

Wieselquist, J. (2009). Interpersonal forgiveness, trust, and the investment model of commitment. *Journal of Social and Personal Relationships*, *26*, 531–548. https://doi.org/10.1177/0265407509347931

Worthington, E. L., Jr. (1998). *Dimensions of forgiveness: Psychological research and theological perspectives*. Radnor, PA: Templeton Foundation Press.

Worthington, E. L., Jr. (2003). *Forgiving and reconciling: Bridges to wholeness and hope*. Downers Grove, IL: Intervarsity Press.

Worthington, E. L., Jr. (2005). More questions about forgiveness: Research agenda for 2005–2015. In E. L. Worthington Jr. (Ed.), *Handbook of forgiveness* (pp. 557–574). New York, NY: Brunner-Routledge.

Worthington, E. L., Jr., Griffin, B. J., Toussaint, L. L., Nonterah, C. W., Utsey, S. O., & Garthe, R. C. (2016). Forgiveness as a catalyst for psychological, physical, and spiritual resilience in disasters and crises. *Journal of Psychology and Theology*, *44*, 152–165.

Worthington, E. L., Jr., Jennings, D. J. & DiBlasio, W. (2010). Interventions to promote forgiveness in couple and family context: Conceptualization, review, and analysis. *Journal of Psychology and Theology*, *38*, 231–245.

Worthington, E. L., Jr., Sandage, S. J., & Berry, J. W. (2000). Group interventions to promote forgiveness. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research,*

and practice (pp. 228–253). New York, NY: Guilford Press.

Worthington, E. L., Jr., Van Oyen Witvleit, C., Pietrini, P., & Miller, A. J. (2007). Forgiveness, health, and well-being: A review of evidence for emotional versus decisional forgiveness, dispositional forgivingness, and reduced unforgiveness. *Journal of Behavioral Medicine*, *30*, 291–302. https://doi .org/10.1007/s10865-007-9105-8

Ysseldyk, R., & Wohl, M. J. A. (2012). I forgive therefore I'm committed: A longitudinal examination of commitment after a romantic relationship transgression. *Canadian Journal of Behavioural Science*, *44*, 257–263. https://doi.org/10.1037/ a0025463