

# More–than–relationship quality: A feminist new materialist analysis of relationship quality and the potential of digital couple interventions

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## Funding information

Economic and Social Research Council, Grant/  
Award Number: RES-062-23-3056

## Abstract

Long-established studies and scales have advanced understandings of family function, marital satisfaction, and couple relationship quality. The underpinning constructs nevertheless remain under-conceptualized and largely removed from the heuristic of everyday life and the dynamic of contemporary coupledness. We propose that a paradigm shift is required to sufficiently engage with the digital worlds of 21st century intimacies. Ideas in feminist new materialism revitalize the epistemology and ontology of relationship science. This enables a new look at how relationship quality is manifest in and created through human–technology intra–actions. The research tools of feminist new materialism are, however, typically creative and intentionally exploratory. We demonstrate how using a practices approach, which focuses on everyday lived experience, facilitates investigation of multidimensional public–private worlds. We deploy this to build a feminist new materialist analysis of a digital couple intervention. Through this, we develop the concept of *more–than–relationship quality*.

## KEYWORDS

couple relationships, diffractive analysis, digital couple interventions, family practices, feminist new materialism, more–than–relationship quality

This article draws upon two original studies: The first was funded by the Economic and Social Research Council (RES-RES-062-23-3056). The second was funded by The Open University.

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## INTRODUCTION

A romantic relationship with a partner is one of the most important features of adult life throughout the Western world. About 90% of adults in the United States (USA) and United Kingdom (UK), for example, marry at some point (United-Nations, 2019) and the quality of this relationship has enormous impacts on the happiness, mental health, and well-being of families, adults, and children (Umberson & Thomeer, 2020). Critical engagement with the tools and concepts deployed to understand marital satisfaction and relationship quality is therefore crucial (Delatorre & Wagner, 2020). The pioneering conceptual and empirical work of Ellen Berscheid and Elaine Hatfield put relationships on the map of psychological science (Reis et al., 2013) and from this nascent research area (Hatfield & Sprecher, 1986), the field of family and relationship science has blossomed (Berscheid, 1999). Moving away from individualistic perspectives and embracing relational interdisciplinary approaches (Simpson & Campbell, 2013), relationship science now provides an accomplished “cohesive and unified account of romantic relationships” (Finkel et al., 2017, p. 384) that employs diverse empirical methods to understand the initiation, development, maintenance, and dissolution of interpersonal romantic relationships.

We propose that it is timely for a paradigm shift; to take a side step and sufficiently engage with the digital worlds of 21st century relationships. In this article, we show how ideas in feminist new materialism can revitalize both family and relationship sciences. We introduce feminist new materialisms and the ways that the concepts and tools of family and relationship science can flex to embrace this critical agenda. We outline and engage with the practices approach that prevails in family sociology in the United Kingdom. This focuses upon everyday lived experience and the ways in which public–private worlds intersect. In the second half of the paper, we illustrate how feminist materialist analysis can advance understanding of the multidimensional ways that digital couple interventions work. Moving beyond the descriptive account of method and/or cultural theorizing, we demonstrate how a practices-based feminist new materialist approach can be deployed in family and relationship science. We use this approach to explore how relationship quality can be understood as an assemblage, and through diffractive analysis develop the novel concept of *more-than-relationship quality*.

## FEMINIST NEW MATERIALISMS

Rooted in the concepts of Deleuze and Guattari (1987) on the affective force that connects and establishes relations between things, and actor-network theorizing (ANT) pioneered by Latour (1999) on the mutually constitutive agential properties of actors (humans) and actants (things), feminist new materialisms interrogate how humans are entangled in broader ecologies of living creatures and nonliving objects and spaces (Bennett, 2009). This does not afford inanimate objects with sentience or anthropomorphize nonhuman beings such as animals. Rather it acknowledges that nonliving things are steeped in our feelings and an integral part of our relational ecosystem. Things are embedded in, not adjunct to, our affective worlds. This reorients human-centered paradigms to more-than-human understanding of the processes that generate activities and relations and their potential effects (Lupton, 2019b). Human connections with nonhuman entities, or in semiotic terms, actants (Latour, 1999), are often critically interrogated under the rubric of posthumanism, a sister philosophy to new materialism. Posthumanist theorizing sees all matter as one. It turns away from bio-centered thinking toward nonhierarchical vital forces, referred to as “zoe-centred nonhuman process” (Braidotti, 2018, p. 340). These forces cut across segregated species, categories, and domains. Human subjectivity is perceived as an assemblage of living/biological and material/technological actors and the capacities that emerge within and through their associations and encounters (Duff, 2018).

Feminist new materialisms thus focus attention onto how experiences and relationships are rendered meaningful: they speak to research process (methodology) and the practice of knowledge generation. In family and relationship science, this refocuses attention onto the intersections of lived experience, social structures, and couple norms. As relationships are increasingly manifest and created through technological interventions, it highlights the heuristic of contemporary digital coupledness. It shows how humans and digital technologies are not separate entities but are co-constituted through their past, present, and future capacities. Quality in relationships is a multidimensional configuration that is manifest through these entanglements. Rather than simply verifying and constructing a novel research subject, feminist new materialisms necessitate engagement with the entanglement of research objects, conceptual approaches, analytical tools, scientific discourses, values, and cultural norms (Ingold, 2007). The approach is centrally concerned with issues of ontology (the nature of being) and epistemology (how we come to know what we know, including making sense of lived experience) (see Barton & Bishop, 2014, pp. 241–243).

## DIFFRACTIVE METHOD

Feminist new materialisms are accordingly a research methodology as much as a conceptual framework, providing a dynamic set of analytical tools “for the non-dualistic study of the world within, beside and among us, the world that precedes, includes and exceeds us” (Van der Tuin, 2018, p. 277). They seek to undo certainties and resist meta-narratives that cohere the emotional intricacies and nuanced complexities of lived experience. Rather than focus on proven patterns and similarities which generate a coherent narrative or substantive findings, new materialisms propose a diffractive method and analysis (Barad, 2014). That is, they engage with how knowledge apparatuses such as institutional structures, technological capacities, and cultural norms, help make public–private worlds. A diffractive methodology thus “accounts for the unavoidable power of knowledge/world-making apparatuses to bring specific realities into being to the exclusion of others” (Mauthner, 2021, p. 42). Feminism does more than add a gendered perspective to this new materialist paradigm, it confers qualitative research with particular ethical and political tasks. Feminist new materialisms are predicated on the principle that concepts, theories, and praxis are implicated by the specific ethical and political contexts in which they take part (Truman, 2020). This propels analysis away from normative interpretations toward “unpredictable patterns” (Mazzei, 2014, p. 742) which produce different situated knowledge.

Like ANT, this desire to retain epistemological uncertainties calls attention to the ways in which methods not only describe social realities but are also implicated in their creation. Social phenomena are not out there waiting to be recorded: they are fleetingly captured in momentary stability through the research process that creates space for the indefinite (Law, 2004). This impels researchers to think with theory (Jackson & Mazzei, 2012), advancing a postqualitative paradigm that critiques traditional definitions of research data, as well as notions of validity, rigor, and reliability (Braidotti, 2019). Nothing is taken for granted: participants’ worlds are always in the process of becoming and become known through interpretative practices. As such, there is “no final version of a performance, idea, feeling, action or practice and the other phenomena that make up humans’ experiences of being-in-the-world” (Lupton, 2021, p. 70). Meaning and interpretation remain partial and emergent. The human condition—how we live and love—is an outcome of practices and processes (Andrews & Duff, 2019). No entity—human or object—should be taken as given. Everything must be accounted for (Barad, 2007).

## The relational turn

These philosophical and paradigmatic issues underpin the relational turn in critical social science. Here researchers have engaged with how we experience our sense of self (ontology), the ways in which rules and norms guide how people understand their worlds (epistemology) (Barton & Bishop, 2014), and the match and disconnect between theorizing and empirical observations (Bell, 2022). For example, how people live in-relation to others (humans and non-humans) in ways that obfuscate and illuminate the materialization of power (Gabb, 2011a). In family and relationship science, these concerns are often examined under the rubric of relationality, calling attention to the mechanisms and contexts of interrelationships (Galovan et al., 2022) and how the self is “determined concurrently by how we respond to others” (Galovan & Schramm, 2018, p. 202). Our sense of self is therefore not immutable. It does not derive merely from what is within us. Identities are a “unique nexus of our relationships” (Slife & Wiggins, 2008, p. 19) that are situated in and constituted through the past, present, and future imaginings of self and other (Gabb & Fink, 2015a).

Building upon the critique of ontological individualism that underpins measures of satisfaction and quality in relationship (Fowers et al., 2016), the flourishing (eudaimonic) view of relationships focuses on the factors that enable couples to thrive and what makes our relationships meaningful (Galovan et al., 2022). Strongly relational perspectives are premised upon an “integrated view of the self” (Galovan & Schramm, 2018, p. 199). This counterbalance to individualism proposes that we live through embedded relationships with other people, networks, and communities (Smart, 2007) which requires us to focus on processes of relating more than the individual or the self (Mason, 2004). From this viewpoint, all things, events, and places are “already and always related to one another” (Slife & Wiggins, 2008, p. 18), reconnecting us with the underpinning ethical issues of ontology. A strongly relational paradigm proposes that “who we are is who we are in relation to others. The self is determined concurrently by how we respond to others” (Galovan & Schramm, 2018, p. 199). Whereas mainstream psychology and traditional family and relationship science typically identify the relationship as weakly connected and interpersonal relationships as constituted through the properties that are taken into the relationship, feminist new materialisms—like proponents of radical (strong) relationality in family sciences (such as Galovan & Schramm, 2018; Slife & Wiggins, 2008)—identify the capacity to intra-act as coming from *within* the relationship. The affordances of each thing (human or nonhuman) are not distinct and separable (Barad, 2007) but are generated through their intra-action. The resulting assemblages are dynamic socio-politico-economic entangled entities (Braidotti, 2002) that reflect the affective forces and capacities of things (Fullagar & Taylor, 2021). As such, all entities (human and nonhuman) are relational effects of intra-active entanglements, something that requires us to rethink knowledge claims (epistemology) because this process is not at the behest of humans and cannot be understood through a dualistic world view (Murriss & Bozalek, 2021).

## Family practices

The feminist new materialist conceptualization of intra-action is primarily advanced through philosophical theorizing and/or participatory research and has yet to be widely applied within substantive empirical investigation. Studies in this vein typically use an ever-expanding array of multisensory methods to create novel emotion-centered materials, that is emotion-centered participant-generated artifacts (“dartifacts”) which have the capacity to communicate personal experience on sensitive topics (Renold, 2018). Though these are qualitatively rich in meaning, we suggest they are underspecified, and remain typically exploratory and too idiosyncratic for general use in family and relationship science. We propose that a practices approach can

provide a mechanism to bridge this disjuncture. The practices approach that characterizes UK family science hones in on everyday processes. This resonates with strong relational understandings of the individual and relationships that emphasize the importance of “day-to-day life on the development of the relational individual” (Galovan & Schramm, 2018, p. 212). However, because of its sociological origin, practices research also (and crucially) investigates the ways that power and structure create public–private worlds and generate personal experience. This has strong connections with feminist family science (see Allen, 2023) which examines the micro-politics of personal relationships and the axes of power that structure the macropolitics of families and coupledom as social institutions (Allen, 2016; Few-Demo et al., 2014). These are core tenets of practices research and the concepts of family practices (Morgan, 1996, 2011) and practices of intimacy (Jamieson, 1998).

The term “family practices” was first coined by UK sociologist Morgan (1996) who used this analytical lens to focus on the ways in which families are experienced and come to be known as social units. Practices are not only about actions, as the word may suggest, family practices engage with the intersections of doing and relational being, arguing that how what we do cannot be extrapolated from who we are and how we have come to be—namely through our personal biographies and sociocultural geopolitical contexts. The concept of practices brings together personal and social life including discourses which ascribe meaning to lived experiences. Family practices are already partially shaped by legal prescriptions, economic constraints, and cultural conditions, but this does not debar variation (Morgan, 2011). Between-family and experiential differences across and within households are presumed (Jamieson, 2005) and may encompass any number of partners (Roseneil & Budgeon, 2004), friends, and neighbors (Jamieson et al., 2006).

The approach has been deployed in UK family sociology in a multitude of contexts. For example, “family display” (Finch, 2007) expands upon the original concept by recognizing that while family practices occur all the time within households, these only become meaningful when they are understood by others as conveying “family.” Family practices thereby derive significance from their location in sociocultural systems of meaning. Conversely, this reliance upon social recognition can further marginalize constellations beyond the heteronorm such as LGBTQ+ parent families whose queer sexualities and diverse genders may not be safe to display (or readily identifiable) as “family” in all circumstances (Gabb, 2011b). “Practices of intimacy” (Jamieson, 1998) is therefore, arguably, a more inclusive concept because it focuses on the ways that meaningful public–private connections are made and remade without reliance on social recognition. Practices of intimacy and practices of relating refer to the ways that we connect with one another. They stretch across species and subject–object divides: otherness is part of everyday relational living (Gabb, 2011a). This breaks down distinctions between being/doing, self/other, human/nonhuman, and nature/culture. The practices approach is thus well-suited to engage with the heuristic of contemporary families and couple relationships, showing how entities are seldom disentangled in lived experience. Moving away from a problem-centered approach, practices research focuses on good-enough relationships and ordinary family troubles (Ribbens McCarthy et al., 2013). Heterogeneity replaces homogeneity. Interrelatedness supersedes individualism (Holmes et al., 2021). This more holistic approach to the study of relationships highlights and distinguishes between behaviors and cultural norms. It acknowledges that the families we live by (ideal) and the families we live with (experience) are not identical (Gillis, 1996). Likewise, the theories that we use to make sense of relationships may diverge from the theoretical principles that guide family life (Daly, 2003).

The practices approach is therefore ripe for further expansion, we suggest, within diffractive analyses of human/nonhuman entities. This builds upon investigations that have already shed light on intersecting personal, social, and digital worlds. Examples include the ways that digital–material configurations are situated in the everyday spaces and practices of daily life



(Elwood & Leszczynski, 2018) and are already “implicated in and by the lives of ordinary people” (Pink et al., 2017, p. 3), something that we explore in more detail later on in the case study.

## Family as figuration

Family science has therefore previously engaged with the entanglement of human and non-human (technological) entities, but the lens of new materialisms remains at best peripheral. There are a couple of notable exceptions. For example, Schadler (2016) has used feminist new materialisms to explore contemporary definitions of family. She proposes that constellations of intra-actions make up and maintain the boundaries of family relationships and create what we understand as family noting: “From a new materialist perspective, then, family is a figuration; multifold processes and entities are part of and a consequence of everyday family processes that create the boundaries of the figuration ‘family’.” (Schadler, 2016, p. 508). This framing of “family as a figuration” strongly resonates with ideas of family practices (Morgan, 1996), family display (Finch, 2007), and practices of intimacy (Jamieson, 2005), and how practices of relating evince and contest the sociocultural boundaries that distinguish between self/other, human/nonhuman (Gabb, 2011a), as discussed earlier. The feminist new materialist lens further sharpens the focus on how understandings of family are constituted through transversal and posthuman material-discursive processes of differentiation that simultaneously define its component parts and bring together its symbolic and cultural meanings and lived enactments (experience). In this way, family can also be characterized as an assemblage: an entity that is constituted through socio-politico-economic entanglements (Braidotti, 2002); a collection of living/biological and material/technological actors (Duff, 2018) that are brought together and generated through the affective forces and capacities of things (Fullagar & Taylor, 2021).

Viewing family as a figuration (or assemblage) and not a form has, we suggest, the potential to stimulate innovations in family theory, research, and practice, something that is elaborated by Natasha Mauthner (2021). Building upon conceptualizations of relationality, Mauthner suggests that relational sociologies aim to transcend binaries such as functional/dysfunctional, whereas focusing on personal and social relations as separate entities reaffirms the dualism between the social and the natural. Using Barad’s (2007) relational ontology, she shows how families challenge such distinctions. Families demonstrate the ontological inseparability of social/natural and/or material/discursive relations and their mutual constitution. This opens up the possibility of a distinctive ontological project by calling attention to the ways that entities (such as families) come into being through intra-actions (Mauthner, 2021). These two examples (i.e., Schadler and Mauthner) demonstrate how feminist new materialist insights can advance understandings of families and relationships, but they stop short of practical application.

Feminist new materialist engagement with human and nonhuman worlds has, we suggest, the capacity to expand *empirical* investigations and refine relationship interventions. For example, the couple and their relationship quality can be more fully explained and understood if intra-active and intra-contextual processes are included. This is more than a summative exercise. Feminist new materialisms do not simply add an ever-increasing number of dimensions to phenomena. Instead, they require us to probe taken-for-granted assumptions that underpin and constitute the object of study, that is, to revisit the underpinning constructs—in this instance families, the couple, and relationship quality.

## Relationship quality

Relationship quality is the dominant construct that guides all marital research including those conceptualized through relationality. It is a synthesis of couple function and process,

representing the subjective perceptions of both partners and their assessment of their couple relationship. It is typically measured using individual self-reported survey instruments, which foregrounds individuality over relationality. This is problematic. Using only one partner's perceptions of the relationship can lead to an incomplete view of the couple relationship and an elision of partners and the couple relationship (Galovan et al., 2017). Furthermore, while the instruments deployed to measure relationship quality have been revised over the years there has been little critical engagement and qualitative refinement of the underpinning concepts (Delatorre & Wagner, 2020). The empirical attention given to the study of couple relationships is thus arguably "inversely proportional to conceptual analysis of the central construct studied" (Fincham & Rogge, 2010, p. 227). What constitutes relationship quality, how to assess it, and the underpinning dyadic structure remain largely unchallenged (Galovan et al., 2022) and the factors that characterize high quality relationships are often underspecified (Galovan et al., 2023).

Like others, we suggest that an individual's perceived relationship quality is influenced by how well they perceive that the rituals (practices) enacted in their relationship (Pearson et al., 2010) match up with sociocultural couple norms (Fletcher et al., 2000). Instruments compel individuals to make implicit comparisons to the others' relationships, which presupposes an ideal couple relationship exists and that understandings of this are uniformly shared. This is problematic. For example, strong positive verbal communication is presumed to lead to greater individual relationship satisfaction and is therefore identified as a key indicator of couple relationship quality (Schramm et al., 2017). This unilateral assertion privileges a certain type of relationship quality and creates a relationship fallacy.

The underlying premises of relationship quality continue to rely upon reified cultural norms and predominantly White, highly educated, high income married couples living in the USA or UK (Galovan et al., 2023). This presupposes that all couples share the capacity to attain, identify, and manifest relationship quality, a heteronormative assumption that we have called into question earlier on in relation to the display of LGBTQ+ parent family practices (Gabb, 2011b). The reliance on discourses and the spoken word over practices or rituals negates the relationship quality of many couples. It does not, for instance, recognize the culture and heterogeneity of African Americans and their families (McNeil Smith & Landor, 2018) nor does it account for partners' strategies of nonverbal communication which may be a positive and an agreed mode of couple dialogue (Gabb & Fink, 2015a). The compulsion to talk is ever-present in Western culture and is characterized as a sign of good relationship quality (Illouz, 2008), but love is articulated through many other known and knowing ways (Jamieson, 1998). In these circumstances, relationship communication is likely to go undetected or be rated poorly in assessments of relationship quality. Furthermore, assuming that problem-solving discussions can serve as a measure of partners' relationship maintenance skills disregards the motivations and rationales for communicative behaviors (Carroll et al., 2006). Like others, therefore, we believe that it may be more pertinent to frame communication as "living dialogue" as this reflects its situated contexts and varied forms (Galovan & Schramm, 2018).

Feminist new materialisms take this one step further. The approach is in part a reaction to the privileging of linguistics in scientific inquiry (Truman, 2020) suggesting that: "Language has been granted too much power" (Barad, 2003, p. 801). Even materiality has been turned into a matter of language as phenomena come into being and are known through discourse. Feminist new materialisms thus represent a critical response to this over-reliance on language-determinations of the world. They require, for example, that we acknowledge the excess of significance afforded to language in assessments of relationship quality. This situates the concept of relationship quality, as currently defined, in its subjective and geopolitical context. It encourages us to further investigate the processes through which quality in relationships comes to be known and experienced as a positive attribute of the couple. This serves to prise apart the couple as a concept and cultural category.

## The couple

As early as the 1980s, Thompson and Walker (1982) highlighted the need for researchers to be more attentive to conceptual assumptions that underlie dyadic study. They issued a salient warning, without critical attention to the couple as a conceptual unit research does not actually study lived relationships. This leads to potentially “ambiguous or false conclusions about relationships” (Thompson & Walker, 1982, p. 898). However, family and relationship science has become ever-more attentive to couples’ lived experience and circumstances. Rather than assessing romantic coupledness as a largely invariable and naturally occurring phenomenon (Finn, 2012), studies have been attentive to the relationships that couples *live with* and the ways these intersect with the ideal of the couple norm (Roseneil et al., 2020). This shifts analytical attention onto the ways that people derive meaning, significance, and their identity through interactions. “The basic unit of analysis, then, is not the constituent elements of reality, but rather the dynamic, as an unfolding process” (Roseneil & Ketokivi, 2016, p. 148).

This critically engages with everyday coupledness as problematic—to repurpose the idiom of feminist sociologist Smith (1988). It disrupts the mono-couple as an archetype, for example, acknowledging that couples may extend beyond the dyad and include other people (sexual partners and intimate friendships: Roseneil & Budgeon, 2004). There are myriad ways through which couples experience and perceive the quality of their relationships and yet relationship science is only now beginning to recognize the need for greater inclusivity (Curran & Randall, 2023). We argue that couples are what couples do (Gabb & Fink, 2015a). This starting assumption unsettles the material-discursive category of “compulsory coupledness” (Wilkinson, 2012) that prescribes the boundaries and ideology of romantic love, such as cultural norms of monogamy and expectations of cohabitation. It connects with feminist new materialist disruptions of tradition, knowledge, and norms. This encourages us to dig deeper into the social, cultural, as well as the technological components of contemporary intimacies.

Partners are increasingly both turning to and interacting with one another in diverse ways. Behaviors are becoming ever-more mechanized and determined through digital instruments (Danaher et al., 2018). In the second half of this article, then, we engage with technologies of health and wellbeing and use a case study to show how feminist new materialisms can advance understanding of contemporary digital intimacies. This hones in on the processes which create more-than-human worlds (Lupton, 2019b) and the “distributed, relational, situated and emergent” (Lupton, 2020, p. 969) qualities of these human-technological assemblages. We explore how a feminist new materialist perspective helps us to understand how couples and digital relationship technologies intra-act to generate a more-than-relationship quality.

## CASE STUDY

### Digital dating and technologies of health and well-being

People’s relationship worlds are now steeped in technology, from digital dating to initiatives for couple support and education. The advent of bulletin board systems in the 1980s moved online matchmaking and dating into the mainstream. Digital dating is now ubiquitous with nearly one third of American adults reporting they have used online dating or a dating app, increasing to almost half of younger adults (Anderson et al., 2019). This generational dynamic reflects the cultural shift toward digital worlds, with young people growing up immersed in a “rich digital ecosystem” (Bergström, 2022, p. 64). Research has yet to fully track the post-online dating relationship journey, but commercial research indicates that the current generation of digital daters is predisposed toward digital relationship interventions. In the United States, many federal and state governments are allocating unprecedented resources to strengthening marriage initiatives



(Randles, 2017) and these couple relationship education (CRE) programs are increasingly being delivered through digital and/or hybrid (digital and in-person group) means, especially those directed toward young people (Markman et al., 2022). There is less corresponding investment in CRE in most other national contexts, although the UK government, for example, pledged its commitment to digital health and well-being interventions in its 2016–2020 strategic plan (Gov. UK, 2022).

Love is thus becoming ever more digitized resulting in the technological commodification of intimacy: “therapy has become inscribed in a worldwide ecosystem of automated intelligent machines” (Elliot, 2023, p. 75). For example, chatbot therapy and counseling apps proffer instant information and advice generated through vast digital databanks and algorithmic (user) software. Chatbot therapy such as Woebot are immensely popular, generating millions of conversations every week (Elliot, 2023). They ostensibly function as an emotional investment advisor, being designed to both mollify and modify behaviors. The quick fix instrumentalized package serves both a personal and social purpose. Solutions-uptake signify users’ (individualized) investment in personal (and relationship) growth. The commodification of difficulties is a consequence and driver of consumer capitalism with difficulties being personalized and presented as issues to be redressed. This contrasts with prevailing positive psychology and flourishing (eudaimonic) perspectives in family and relationship science which focus on a flourishing view of relationships and the factors that make relationships meaningful (Galovan et al., 2022). Family troubles are normal and may even enable couples to thrive (Fowers et al., 2017; Ribbens McCarthy et al., 2013).

Social theorizing on the impact and meanings of digital intimacy and technologies of health and well-being is well established (Elliot, 2023). Critical evaluative studies of CRE programs delivered by mobile apps, however, have only fairly recently emerged (Lucier-Greer et al., 2018). Research and critical evaluation of behavioral information technologies (BITs) and quantified relationship (QR) technologies are playing catch up with rapidly growing technological developments (Doss et al., 2017). One reason for the research lag between digital relationship behaviors and study foci is undoubtedly the speed of change. Thousands of personal growth, health, and well-being apps come onto the market every year (Elliot, 2023), so the sheer volume and churn of digital products makes in-depth critical analysis challenging. Another reason for the lag could be that technological initiatives are ordinarily developed in the commercial sector and are thus off the analytical radar of mainstream relationship and family scientists. Moreover, they are associated with healthcare more than personal relationship education and support. BITs, for example, are seen as providing cost-efficient and accessible solutions that overcome geographical barriers to healthcare provision (Gov.UK, 2021). Evaluations of QR technologies have shown how these instruments can add to the digital intervention toolkit, using tracking and gamification to monitor, provoke, and sustain behavior change (Danaher et al., 2018). Early studies indicate that technology facilitates the collection of new measures with increasing sophistication and specificity, thus improving the ability to identify and test mechanisms of treatments. For example, more frequent assessments increase the chance of detecting change within an individual before that change affects the couple (Doss et al., 2017).

The extent to which QR technologies will deliver lasting improvements to couple relationships is nevertheless unclear. Metricized motivation tends to generate instrumentalized improvements that achieve a higher quantity rating, but this may not translate into better relationship quality. Feminist new materialist analysis of sex and reproductive self-tracking apps, for example, has shown how they reduce activities to basic numbers and thus reinforce highly reductive and normative ideas of what is good sex and performance (Lupton, 2015). Furthermore, couples with higher risk factors associated with distress (i.e., those who are socially, economically, and educationally disadvantaged) are underrepresented and the least likely to benefit from CRE programs (Rhoades, 2015). The seemingly inexorable direction of travel toward digital intimacies must therefore be embraced with some degree of caution. The rapid growth of the

digital health market and ever-increasing range of apps available need to be equally matched by robust *multidimensional* evaluations (Hay, 2016; Knopp et al., 2021) which are crucial for developing the evidence-base for relationship interventions. Below we set out how evaluations of digital interventions might benefit from a practices approach and engage with the challenges to epistemological and ontological certainties posed by feminist new materialisms.

## Evaluating health and well-being technologies

Overall, evaluations of BITs and QR technologies remain mechanistic and largely instrumental, focusing on design, functionality, acceptability, and effectiveness. For instance, evaluations have established that interventions are more effective when both members of a distressed couple work together to select, understand, and solve a relationship problem (Doss et al., 2016). Relationship maintenance behaviors are improved when participants engage with an app multiple times a day (Lucier-Greer et al., 2018), using a combination of individual and joint activities (Doss et al., 2013). This work effectively reinforces the idea that relationship quality is best understood constitutively. That is, these factors define both the concept of relationship quality and lead to higher quality relationships (Galovan & Schramm, 2018). There is, nevertheless, a pressing need to develop the theoretical and conceptual approaches and analytical tools required to sufficiently investigate family and relationships digital interventions. A practices-informed feminist new materialist analysis is, we suggest, ideally suited to this task.

How an app works—its functions and affordances—are baked into apps by their designers and developers. They are conceived and produced for a certain kind of user and type of use, which are typically structured around dominant cultural norms and assumptions (Lupton, 2019a). However, though designers may have an experienced and informed view of uptake and the ways that a product will be used in general, personalization and use in practice cannot be readily predicted. Functionality extends beyond the technological realization of computer coding. With a complex app, with multiple choices for content and engagement, unique combinations of usage will emerge for each individual and/or couple as they intra-act with content and the technology. Apps are constantly evolving to maximize effectiveness and engagement. A practices-based approach to evaluation can generate data on everyday lives and thus enable researchers to drill down into the competencies, contexts, and creativities that combine in the (human) use of digital interventions. This extends evaluative techniques and moves us beyond outcome-focused evaluation. Learning about how humans and technology intra-act requires that we set aside categorical distinctions that separate design and function, designer and user, human and technology. To disaggregate the human-technology assemblage into its component parts separates the (analytically) inseparable. Smartphones and social media platforms are now embedded in couples' digital worlds. Evaluations need to engage with this human-technology nexus if they are to refine digital interventions.

This requires a conceptual shift in both the foci of study and a critical re-engagement with epistemology and ontology, as highlighted earlier on, and the identification of novel tools of discovery and analysis to better understand these rapidly evolving technologies. Mirroring public health promotion, digital health and well-being evaluations are challenging the predominance of instrumental approaches that characterize traditional health studies and which primarily focus on the determinants and cure of disease or ill-health. Evolving from positivist roots, the field of evaluation science now reflects a greater appreciation of the context-dependent nature and complexity of engagement with health and social care interventions and how these factors impact effectiveness (Pawson & Tilley, 1997; Skivington et al., 2021). This field of study nevertheless remains a work in progress. Engaging with developments in digital health and well-being technologies and the tools of evaluation used to probe their effectiveness, we outline below a case analysis of a digital couple intervention. This analysis serves both a

methodological and conceptual purpose and speaks to the fields of digital health and well-being evaluation and family and relationship science.

### Case analysis: *Paired* couple app

The *Paired* app does not prescribe what constitutes a good relationship, but like all intervention technologies it remains a digital artifact that has a symbolic meaning—the promotion of healthy couple relationships. The prevailing definition of a healthy romantic relationship is one that adds to each partner's personal well-being and where both partners work together to meet their individual and combined needs (Finkel & Simpson, 2015). Relationships are typically categorized as healthy through measures of relationship satisfaction (Schramm et al., 2017) which implicate a more individualistic “communication-satisfaction” paradigm of couple relationships (Galovan et al., 2023), as opposed to a strongly relational view (Galovan & Schramm, 2018). Pulling from both paradigms, characteristics of a healthy relationship include good communication, mutual trust and respect, and an ability to successfully manage disagreement and conflict. These are key domains (referred to as “growth areas” in *Paired*) as outlined below. App content is structured around these pillars of relationship quality to facilitate development of partners' relationship maintenance behaviors in and across these domains.

App content is delivered via a combination of push notifications and ever-available bite-sized material that can be easily digested within limited time. It is categorized into growth areas, namely: communication, conflict, sex and intimacy, connection, meaning and growth, money and finances, fun and excitement, home and work, family and friends. Daily questions are typically topic focused, such as “What does good communication look like?” or “What does trust mean to you?” Quizzes are designed to help couples to identify their strength and growth areas, focusing on topics such as “Shared Goals,” “Asking Questions,” and “Sexual Pleasure.” Games are designed to help partners learn about each other in a fun way. Multiple choice questions test partners' compatibility generating scores based on the choices selected. Topics include “Attachment Styles,” “Date Ideas,” and “Erogenous Zones.” In-app conversations generated through these diverse content items are akin to text messaging. These are personalized in format and content—succinct replies, love notes, emojis, and/or sexts, for example. Data from our qualitative study (Witney et al., 2023) report that daily exchanges typically happen in the morning, in response to a push notification. Couples then reflect upon the topic during the day, with or without further communication, and return to the topic later after work and/or when they have time together to discuss in more detail their initial answers and reflections. The app therefore provides a prompt for offline reflection and outside-of-app communication. If couples want to further explore topics, they can search for related content in the “Focused Question Packs” and “Exercises.” These are written by leading experts and provide detailed information that draws upon relationship science. As the examples of daily questions, quizzes and games illustrate, topics are wide ranging and cover key dimensions that are associated with relationship quality and relationship satisfaction. They cover verbal and nonverbal communication, for example “Love Languages” include talk, gestures, and embodied interactions. How the couple discuss the content can range from brief conversation to long discussions, scene-setting, and planning to physical touch and intimacy. The app therefore generates “living dialogue” (Galovan & Schramm, 2018) and embodied multisensory engagements at a time and in a place that works for each couple. This helps to embed behavioral changes in the lived relationship and thus more prone to become part of the couple's routine.

At the time of writing, the *Paired* app (<https://www.paired.com>) had over one million users (September 2022), predominantly located in the United States and United Kingdom and is rated the number one relationship app, globally. To establish the likely utility of the app, we completed a preliminary evaluation study (October to December 2020) that was commissioned

and granted ethical approval by The Open University. The study used traditional tools—statistical analyses of quantitative survey data with supplementary qualitative analysis of interviews and comprised: three in-app monthly brief surveys and linked app usage data ( $n = 3717$ ), an online survey ( $n = 745$ ), and 20 semistructured interviews.

The evaluation established that the app is sound in terms of what it sets out to achieve, that is regular users of the app reported a significant improvement in couple relationship quality (Aicken et al., 2023). Analysis suggested that *Paired* operates through a three-part theory of change: (a) Meaningful couple communication (verbal and nonverbal) is prompted and/or facilitated through the design and content of the app. (b) Relationship maintenance behaviors are prompted and/or facilitated by regular in-app notifications and interactions. (c) Using the app for longer and more frequently results in greater reported improvements in both quantitative and qualitative reports of relationship quality (Aicken et al., 2023). Evaluation is, however, more than an assessment of outcomes.

Semistructured interviews explored *how* the app worked. These used an interview guide generated by the study team from substantive findings from our previous large-scale mixed methods research on long-term couple relationships (Gabb & Fink, 2015a). Like this study, a practices approach was deployed to investigate how people engaged with the app and how (if at all) this translated into perceived improvements in relationship quality. A review of literature demonstrated how feminist new materialisms could enhance understandings of digital health interventions but because interviews were completed online creative participatory methods were impracticable. Instead, like Schadler (2019), we engaged with feminist new materialist thinking because it facilitates “a reconfiguration of analytical research tools without using the representationalist epistemological framework these tools are often embedded in” (p. 215). We therefore set out to explore how diffractive analysis could be utilized with more traditional interview data. To this end, we looked beyond readily identifiable themes (Barad, 2014) and behavior tropes in the interview data and identified “telling moments” (Gabb & Fink, 2015b). These mundane and unremarkable fragments of experience capture the ways in which participants experienced their relationship and sense of self *with* and *through* the app. This enabled us to remain open to “unpredictable patterns” (Mazzei, 2014, p. 742) and be attentive to the human–technology knowledge that emerged. These processes shed light on the ways that everyday practices, meaning-making, and power relations were materialized, and through this we were able to see the multidimensional ways that users and technologies intra-act.

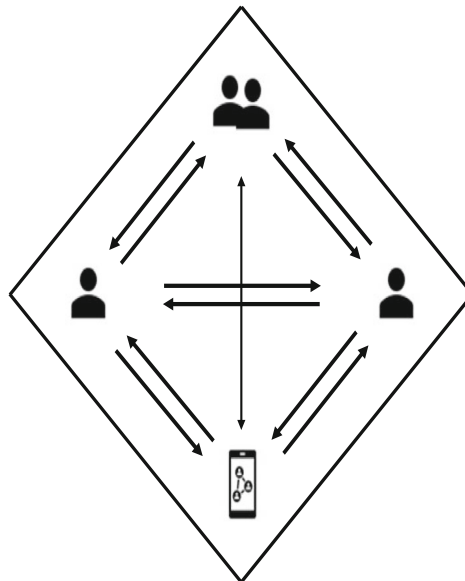
Furthermore, though relationship quality may be experienced day-by-day, it is constituted through and imagined over the course of a partnership and is generated through situated contexts and everyday enactments (Gabb & Fink, 2015a) including those facilitated by the app. This spatio-temporal entanglement of the past–present–future relationship situates change as a central focus of analytical attention (Thomson et al., 2003). Relationship quality is shaped through couples’ biographies, intracontextual practices, and multilocal forms of agency (Schadler, 2016) as users and technology intra-act. No longer vertically aligned, the digital couple intervention can thus be seen to fold the human and nonhuman spatio-temporal entanglements onto one another, generating affective forces and mutually constitutive agential capacities (Lupton, 2019a). The vital flow of energy between and with the components of the (human–app) assemblage (Bennett, 2004) is manifested through the numerous contexts, systems, and engagements which aim to improve outcomes (Andrews & Duff, 2019).

Selfhood is increasingly embedded within digital data with novel algorithmic software and quantified self-tracking apps impelling individuals to take up DIY (do-it-yourself) self-improvements strategies and work on the self. These behavioral improvements and activities of self-governance are incorporated into the routines of daily life and strategies (Elliot, 2023) generating self-knowledge and acts of self-reflection as central structuring features in contemporary personal life and loves. The self, as a reflexive project, thus reflects a profound shift in transformations of intimacy in late modernity (Giddens, 1992); however, though reflexivity may be

characterized and perceived as focused on the self, it is about social reflexes as much as self-reflection (Beck et al., 1994). In the *Paired* app, improvements in relationship maintenance behaviors are simultaneously personal (individual/partner) and social (summoning the couple norm and legitimized understandings of quality in relationships). The dyadic partner-linking function, for example, serves to reinforce cultural imaginaries of coupledness and as such the relational space of the app is “filled with shared meanings and understandings and ways of being that are necessary to who we are” (Reber & Slife, 2022, p. 48). Our diffractive analysis thus focuses on the intra-active processes of digital coupledness. It calls attention to the ways in which knowledge/world-making apparatuses (Mauthner, 2021) (in this instance the digital couple intervention), technological capacities (the functionality of the app), expertise and cultural norms (the framing of relationship science) combine to create the public-private worlds (Barad, 2014) through the *Paired* assemblage. This breaks down binary thinking—self/other, human/nonhuman (Van der Tuin, 2018). It moves beyond evaluative assessments of effectiveness, and instead it sheds light on how the research assemblage (that is, digital coupledness) is manifest through entangled contextual processes (Mauthner, 2021), something that generates *more-than-relationship quality*.

Our diffractive analysis demonstrates how the app-couple intra-action can be reciprocally beneficial—for both partners, the couple, and the financial viability of the *Paired* enterprise. The app is more than the glue that holds partners together: by creating a safe neutral space it becomes part of the couple relationship. This process results in a metaphorical relationship (rhomboid) assemblage (see Figure 1). This structure holds together both partners, the couple, and the app, through pivot points of fixity and flex. The interior and exterior vertices (angles) conjoin the component parts of the rhomboid, but they do not impose rigidity. Instead, they expand and decrease, twist and turn. In this assemblage, the vertices signify the multiple different ways in which each component part of the couple relationship (from both partners) intra-acts with the various user-determined uses of content in the app. The assemblage is not,

*Relationship (rhomboid) assemblage*



**FIGURE 1** Relationship (rhomboid) assemblage



however, boundless. The sides of a rhomboid are equal length. Two sets of parallel lines link together the vertices. These lines represent the strength of couple connection in each of component (growth) areas and the regulatory frameworks and external markers of how we come to know quality in relationships. Stability and structure thus consolidate the form and render it meaningful. External markers are not determinants, instead human–technology intra–action generates multiple meanings that resist uniformity. What it means to be a couple differs from one couple to the next. How partners communicate—verbally and nonverbally—is fostered through the couple dynamic and the partners’ sense-making of app content.

The rhomboid assemblage thus encapsulates the capacities and flow of affordances that constitute relationship quality. There is no preceding or primary unit of analysis because all parts are brought into being through their intra–action. There is no unidirectional stream that drives this intra–action because exchanges are mutually constituted and equally responsive. The directional flow (or lines of power) switch as conversations evolve. Each individual exists outside the app. The couple is a compound of these two people. Partners’ in-app and continuing communication outside the app embed relationship maintenance into the routine practices and domestic environment of the couple. As such, the app becomes part of the situated relationship nexus (Slife & Wiggins, 2008): an assemblage that entangles humans and technology. The positive impact in couples’ improved relationship quality generates emotional attachment to the app and this encourages their continuing usage. The lynchpin and outcome of this rhomboid intra–action is the vibrant assemblage of more–than–relationship quality. This epitomizes the thing–power (Bennett, 2009) of relationship technologies and demonstrates the need for sufficient analytical tools to effectively investigate the human–technology interface.

## DISCUSSION: MORE–THAN–RELATIONSHIP QUALITY

There is a wealth of lasting research that evidences that relationship quality is crucial to personal health and well-being, but new tools are needed to reflect and engage with 21st century coupledom in a digital age. This requires scholars to revisit methodologies and the purpose of research inquiry: the epistemological and ontological foundations of family and relationship science. As reflexive researchers we are well aware of the need to resist the impetus to tie up loose ends: “life experience is messy, we may do well [...] to hold onto some of that messiness in our writings” (Daly, 2007, pp. 259–260). Feminist new materialisms take this one step further, calling attention to the intra–action of methods, instruments, and subjects (Schadler, 2019). Thinking through the intra–actions of humans and technologies focuses attention on the ethico–onto–epistemological entanglements of matter and meaning (Barad, 2007). That is, feminist new materialisms foreground the inseparability of ethics, ontology, and epistemology and the ways in which (scientific) knowledge production and scientific practices generate immutable understandings of the world and its human and nonhuman inhabitants. Focusing on this knotty entanglement enables us to look afresh at phenomenon. Rather than following proven patterns and similarities that generate a coherent narrative or substantive findings, feminist new materialisms deploy diffractive method and analysis. As we have shown in the case study analysis, this reframes how to examine function and purpose, process, and structure. It simultaneously describes and creates social realities, in this instance the digital couple and understandings of relationship quality. Instead of crafting meta-narratives that cohere the emotional intricacies and nuanced complexities of lived experience, the approach undoes certainties. The affordances of the digital intervention define its function, but do not determine how it is incorporated into couples’ everyday relationship practices. Human–technology intra–actions are dynamic processes that are shaped by each entity in all their uniqueness and diversity. The app operates on the basis that all partnerships are a work in progress.

By embracing feminist new materialist ideas of diffractive method and analysis (Barad, 2014), how material–discursive boundary-making practices produce experiences, meanings, and understandings of couple relationships are brought to the fore. The outcomes of this article, therefore, are not simply a representation of the research object (i.e., effectiveness of the app), but how the research assemblage (i.e., digital coupledness) is manifest through entangled contextual processes (Mauthner, 2021) that generate relationship quality. Like others, we argue that relationship science needs to ask more probing questions, questions that undo certainties and focus on how couples successfully function in and through dynamic contexts. We should no longer be constrained by what can be observed and measured directly. Rather, as Sprey (2000) entreats, we should practice a “disciplined use of the imagination” (p. 20) whereby the necessity for verification is not entirely discarded but merely left behind. We should not look inwards and advance descriptions of the object of inquiry, but instead ask *why* questions, to generate understandings of a layered world. This acknowledges that different realities may require explanations that cannot be necessarily reduced to each other. It requires us to acknowledge and engage with the inherent tension between empirical endeavor and the concepts espoused in relationality. This has ethical implications because by focusing on “abstract variables, we run the risk of totalizing those we study by reducing them to abstractions” (Galovan & Schramm, 2018, p. 212).

Unsettling the certainties long associated with studies of relationship quality does not, we contend, undermine relationship science, to the contrary: it signifies its maturation. It is necessary to think again about how core concepts—such as relationship quality—are constituted through intra–actions. This breaks down the distinctions between knowledge (expertise) and knowing (experience), being (identity) and becoming (subjectivity). Feminist new materialist analysis therefore expands understanding of relationship quality as a multidimensional construct, by showing the mechanisms through which it is created via everyday human/nonhuman entanglements.

## Unique contributions and future directions

In this article, we propose that how couples create and experience quality in their relationships requires a fresh approach. Relationships are increasingly generated and sustained through digital engagements. Family and relationship science therefore needs to be attentive to factors that are more–than the couple to reflect and better understand contemporary relational ontologies. This requires new tools to engage with and investigate 21st century coupledness. Paper-and-pen survey instruments are no longer sufficient nor are their online equivalents. Relationship quality is an emergent property of the couple relationship that is increasingly understood and worked upon by couples through self-directed digital health and well-being interventions. This entanglement of individuals, the couple relationship, and digital tools provokes the researcher to rethink what we know and how we come to know about relationship quality and the couple. It re-engages us with the foundational research tenets of epistemology and ontology.

This article, therefore, has both a conceptual and methodological purpose. Feminist new materialist studies typically use a representationalist epistemological framework and creative multisensory techniques to call attention to the ways that research not only describes social realities but is also implicated in their creation. Methods are often idiosyncratic, and findings thus remain typically exploratory and illustrative. This delimits its uptake in mainstream family and relationship science. We have shown that by focusing on strong relationality and using a practices approach, the conceptual tools of feminist new materialisms can be deployed more widely. Diffractive analysis of traditional interview data can illuminate the way that couples and digital interventions intra–act, generating human–technology knowledge. Rather than verifying and constructing a research subject, feminist new materialisms require us to rethink research objects,

conceptual approaches, analytical tools, scientific discourses, values, and cultural norms. We concur with Schadler (2016) that this approach has much to offer the study of families and couple relationships. Though interpersonal relations remain key, humans no longer sit alone at the center of the analytical equation. Instead, the starting point is how the human and numerous other entities are differentiated and enacted in the processes of meaning-making and relationship boundaries. This opens the possibility of a distinctive ontological project, for example, of how couples and digital technologies are mutually constituted. App functionality is more-than-technology: it generates something that is more-than-human. The relationship is more-than-the couple. Relationship quality is an assemblage of intra-actions and cannot be extrapolated from the affordances and agencies through which it is created. Simply stated, relationship quality is more-than the sum of its parts.

We suggest, then, that feminist new materialisms have much to offer family and relationship science. They are nevertheless in danger of setting up an unhelpful and reductive binary, that is, nonprofit posthuman critical subjectivity versus self-interested capitalist technology. Posthumanism and feminist new materialism have usefully drawn attention to the over-coding of technology and the inextricable financial profit principle that drives technology developments and processes. The “non-profit experiments in posthuman subjectivity” (Braidotti, 2018, p. 341) are set against the grain of contemporary capitalism. They demonstrate how power originates, operates, and impacts on subject-formation, and require us to develop critical inquiry outside hegemonic frameworks, to create “new concepts and actualizing alternatives” (Braidotti, 2018, p. 341). It is obviously true to say that the start-up tech companies that develop apps, such as *Paired*, are dependent on and structured through a capitalist model. They are after all self-financing. But they should not be reduced to this. The ethos and ethics of a company, both in how they operate and their underpinning mission, should be part of the analysis. *Paired*, for example, is a commercial enterprise and has an organizational hierarchy, but its underpinning aim is laudable, that is to help people have healthy and more fulfilling relationships based on principles from sound relationship science. If we are to fully embrace the central tenets of feminist new materialisms, that is how technology and humans intra-act, then we need to be open to the potentialities of these entanglements. Avoiding binaries such as us (enlightened academics) and them (commercial ventures) opens understandings of how such entities can be a more-than-technology, more-than-capitalist enterprise. This is important because as we demonstrated in our discussion of the relationship rhomboid assemblage earlier on, there are points of fixity, but these are distributed evenly and not a result of differentiated power.

Couple relationships and family life are outcomes of distributed power, but a practices approach shows how behaviors are not prescribed or contained. Relationships are flourishing works in progress that are as diverse as the people living within and through them. Everyday practices sustain and reinforce the couple identity as public-private worlds intra-act. This article, then, has shown how the conceptual frameworks of relationality and family (and relationship) practices intersect and impact upon understandings of couple relationship quality. Feminist new materialisms do more than add another concept to the analytical mix, they revitalize the epistemological and ontological foundations of family and relationship science. We therefore offer a novel definition of relationship quality that builds upon these deconstructed foundations:

Relationship quality is more-than the sum of its component parts. It is mutually constituted through everyday practices of intimacy (deep knowing and togetherness) and the affordances (properties, functions, and capacities) of the couple relationship. It is situated in partners' past-present-future processes of knowing, being, and becoming, and their wider networks of intimacy. These cluster around and are forged through socio-cultural norms of coupledness within and extending beyond the dyad, and through modes of verbal and nonverbal communication and

embodied interactions, in-person and online. Relationship quality is thus a multi-dimensional construct that is a synthesis of couple function and process, structure, context and meaning. It is generated through everyday practices that combine to create socially and personally meaningful experiences of ‘the couple’ as a public–private entity. The couple sits at the center of the construct but it neither defines it nor is defined by it. Instead, both the couple and relationship quality are assemblages that are constituted through intra–actions which create ever-unfolding social, cultural, and technological contemporary intimacies.

We hope this novel definition energizes debate and provokes further fruitful critical engagement across the interdisciplinary field of family and relationship sciences.

## Limitations and future research

Advocates of more–than–human research (such as Lupton, 2019b) claim that this approach develops new feminist new materialisms and engages with old materialisms which include knowledge and traditions that predate Western scientific understandings. Moving humans from the epicenter and focusing instead on human–nonhuman intra–actions is an important conceptual shift, but we suggest that claims to decolonizing knowledge (Lupton, 2019b; Lupton & Leahy, 2021) are tenuous, especially given the emphasis on digital worlds and technology. We thus acknowledge that this article presents a highly Western and industrialized view of relationships. The scope of our analysis has centered on the United States and the United Kingdom because these were the sites of our fieldwork and to generalize beyond this oversteps our data.

Our evaluation of and critical engagement with the *Paired* app have indicated its effectiveness. However, far more research is needed to fully evaluate the success and efficiencies of BITs more generally, especially in the areas of CRE and relationship support (Doss et al., 2017). Our evaluation study found a significant statistical increase in couples’ relationship quality after using the app regularly over a 3-month period (Aicken et al., 2023). We did not, however, use feminist new materialisms in our statistical analysis. Engagement with feminist new materialisms in quantitative studies of families and relationships remains to be done. Qualitative data generated insight on how this improvement in relationship quality was achieved and experienced (Witney et al., 2023). Further studies could expand upon the usefulness of diffractive analysis to advance understanding of other BITs and QR technologies. So too its relevance in applied contexts and service delivery, including how individuals, practitioners, relationship education, and support programs are assemblages generated through intra–action.

Our evaluation of an app stimulated us to engage with feminist new materialisms to sufficiently analyze couple entanglements with digital health and well-being technologies. However, we acknowledge that a feminist new materialist approach is likely to remain peripheral to mainstream family and relationship science that is predicated on large-scale and/or quantitative studies of relationship quality. The approach does not lend itself to replicability and analysis intentionally resists cohesive narratives and substantive findings. In this article, we have therefore advanced a substantively theoretical grounded analysis of how the app works, in part due to the scope of this journal and to illustrate the usefulness of feminist new materialist thinking in analysis of digital couple interventions. We hope that we have shown how feminist new materialisms do have much to offer family and relationship science. It furthers understandings of relationship quality as a construct, and in combination with the practices approach, advances a novel theoretically informed methodology that can revitalize the field of study.

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## REFERENCES

- Aicken, C., Gabb, J., Di Martino, S., Witney, T., & Lucassen, M. (2023). mHealth for couple relationship support: Mixed methods evaluation of the Paired app. [Manuscript submitted for publication].
- Allen, K. R. (2016). Feminist theory in family studies: History, biography, and critique. *Journal of Family Theory & Review*, 8(2), 207–224. <https://doi.org/10.1111/jftr.12133>
- Allen, K. R. (2023). Feminist theory, method, and praxis: Toward a critical consciousness for family and close relationship scholars. *Journal of Social and Personal Relationships*, 40(3), 899–936. <https://doi.org/10.1177/02654075211065779>
- Anderson, M., Vogels, E. A., & Turner, E. (2019). The virtues and downsides of online dating. Retrieved from <https://www.pewresearch.org/internet/2020/02/06/americans-personal-experiences-with-online-dating/>
- Andrews, G. J., & Duff, C. (2019). Matter beginning to matter: On posthumanist understandings of the vital emergence of health. *Social Science & Medicine*, 226, 123–134. <https://doi.org/10.1016/j.socscimed.2019.02.045>
- Barad, K. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs*, 28(3), 801–831. <https://doi.org/10.1086/345321>
- Barad, K. (2007). *Meeting the universe halfway*. Duke University Press.
- Barad, K. (2014). Diffracting diffraction: Cutting together-apart. *Parallax*, 20(3), 168–187. <https://doi.org/10.1080/13534645.2014.927623>
- Barton, A. W., & Bishop, R. C. (2014). Paradigms, processes, and values in family research. *Journal of Family Theory & Review*, 6(3), 241–256. <https://doi.org/10.1111/jftr.12043>
- Beck, U., Giddens, A., & Lash, S. (1994). *Reflexive modernization: Politics, tradition and aesthetics in the modern social order*. Polity Press.
- Bell, D. C. (2022). Metatheorizing in family theory. In K. Adamsons, A. L. Few-Demo, C. Proulx, & K. Roy (Eds.), *Sourcebook of family theories and methodologies: A dynamic approach* (pp. 21–40). Springer.
- Bennett, J. (2004). The force of things: Steps toward an ecology of matter. *Political Theory*, 32, 347–372. <https://doi.org/10.1177/0090591703260853>
- Bennett, J. (2009). *Vibrant matter: A political ecology of things*. Duke University Press.
- Bergström, M. (2022). *The new laws of love: Online dating and the privatization of intimacy*. Polity Press.
- Berscheid, E. (1999). The greening of relationship science. *American Psychologist*, 54(4), 260–266. <https://doi.org/10.1037/0003-066X.54.4.260>
- Braidotti, R. (2002). *Metamorphoses: Towards a materialist theory of becoming*. Polity Press.
- Braidotti, R. (2018). Posthuman critical theory. In R. Braidotti & M. Hlavajova (Eds.), *Posthuman glossary* (pp. 339–341). Bloomsbury.
- Braidotti, R. (2019). A theoretical framework for the critical posthumanities. *Theory, Culture & Society*, 36(6), 31–61. <https://doi.org/10.1177/0263276418771486>
- Carroll, J. S., Badger, S., & Yang, C. (2006). The ability to negotiate or the ability to love?: Evaluating the developmental domains of marital competence. *Journal of Family Issues*, 27, 1001–1032. <https://doi.org/10.1177/0192513X06287248>
- Curran, M. A., & Randall, A. K. (2023). Editorial synthesis for 2 in 2023: A collaboration between IARR's two journals: Recognizing the need for greater inclusivity in relationship science. *Journal of Social and Personal Relationships*, 40(3), 717–733. <https://doi.org/10.1177/02654075231154322>
- Daly, K. J. (2003). Family theory versus the theories families live by. *Journal of Marriage and Family*, 65(4), 771–784. <https://doi.org/10.1111/j.1741-3737.2003.00771.x>
- Daly, K. J. (2007). *Qualitative methods for family studies and human development*. Sage Publications.
- Danaher, J., Nyholm, S., & Earp, B. D. (2018). The quantified relationship. *The American Journal of Bioethics*, 18(2), 3–19. <https://doi.org/10.1080/15265161.2017.1409823>
- Delatorre, M. Z., & Wagner, A. (2020). Marital quality assessment: Reviewing the concept, instruments, and methods. *Marriage & Family Review*, 56(3), 193–216. <https://doi.org/10.1080/01494929.2020.1712300>
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus*. University of Minnesota Press.
- Doss, B. D., Benson, L. A., Georgia, E. J., & Christensen, A. (2013). Translation of integrative behavioral couple therapy to a web-based intervention. *Family Process*, 52(1), 139–153. <https://doi.org/10.1111/famp.12020>
- Doss, B. D., Cicila, L. N., Georgia, E. J., Roddy, M. K., Nowlan, K. M., Benson, L. A., & Christensen, A. (2016). A randomized controlled trial of the web-based OurRelationship program: Effects on relationship and individual functioning. *Journal of Consulting and Clinical Psychology*, 84(4), 285–296. <https://doi.org/10.1037/ccp0000063>
- Doss, B. D., Feinberg, L. K., Rothman, K., Roddy, M. K., & Comer, J. S. (2017). Using technology to enhance and expand interventions for couples and families: Conceptual and methodological considerations. *Journal of Family Psychology*, 31(8), 983–293. <https://doi.org/10.1037/fam0000349>
- Duff, C. (2018). After posthumanism: Health geographies of networks and assemblages. In V. Crooks, G. J. Andrews, & J. Pearce (Eds.), *Routledge handbook in health geography*. Routledge.
- Elliot, A. (2023). *Algorithmic intimacy. The digital revolution in personal relationships*. Polity Press.



- Elwood, S., & Leszczynski, A. (2018). Feminist digital geographies. *Gender, Place & Culture*, 25(5), 629–644. <https://doi.org/10.1080/0966369X.2018.1465396>
- Few-Demo, A. L., Lloyd, S. A., & Allen, K. R. (2014). It's all about power: Integrating feminist family studies and family communication. *Journal of Family Communication*, 14(2), 85–94. <https://doi.org/10.1080/15267431.2013.864295>
- Finch, J. (2007). Displaying families. *Sociology*, 41(1), 65–81. <https://doi.org/10.1177/0038038507072284>
- Fincham, F. D., & Rogge, R. (2010). Understanding relationship quality: Theoretical challenges and new tools for assessment. *Journal of Family Theory & Review*, 2(4), 227–242. <https://doi.org/10.1111/j.1756-2589.2010.00059.x>
- Finkel, E. J., & Simpson, J. A. (2015). Editorial overview: Relationship science. *Current Opinion in Psychology*, 1, 5–9. <https://doi.org/10.1016/j.copsyc.2015.01.012>
- Finkel, E. J., Simpson, J. A., & Eastwick, P. W. (2017). The psychology of close relationships: Fourteen core principles. *Annual Review of Psychology*, 68, 383–411. <https://doi.org/10.1146/annurev-psych-010416-044038>
- Finn, M. D. (2012). The psychological architecture of the stable couple relationship. *Theory & Psychology*, 22(5), 607–625. <https://doi.org/10.1177/0959354312451957>
- Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin*, 26, 340–354. <https://doi.org/10.1177/0146167200265007>
- Fowers, B. J., Laurenceau, J.-P., Penfield, R. D., Cohen, L. M., Lang, S. F., Owenz, M. B., & Pasipanodya, E. (2016). Enhancing relationship quality measurement: The development of the Relationship Flourishing Scale. *Journal of Family Psychology*, 30(8), 997–1007. <https://doi.org/10.1037/fam0000263>
- Fowers, B. J., Richardson, F. C., & Slife, B. D. (2017). *Frailty, suffering, and vice: Flourishing in the face of human limitations*. American Psychological Association. <https://doi.org/10.1037/0000035-000>
- Fullagar, S., & Taylor, C. A. (2021). Assemblage. In K. Murriss (Ed.), *A glossary for doing postqualitative, new materialist and critical posthumanist research across disciplines*. Routledge.
- Gabb, J. (2011a). Family lives and relational living: Taking account of otherness. *Sociological Research*, 16(4). <https://doi.org/10.5153/sro.2443>
- Gabb, J. (2011b). Troubling displays: The affect of gender, sexuality and class. In E. Dermott & J. Seymour (Eds.), *Displaying families: A new concept for the sociology of family life* (pp. 38–60). Palgrave Macmillan.
- Gabb, J., & Fink, J. (2015a). *Couple relationships in the 21st century*. Palgrave Macmillan.
- Gabb, J., & Fink, J. (2015b). Telling moments and everyday experience: Multiple methods research on couple relationships and personal lives. *Sociology*, 49(5), 970–987. <https://doi.org/10.1177/0038038515578993>
- Galovan, A. M., Carroll, J. S., Schramm, D. G., Leonhardt, N. D., Zuluaga, J., McKenadel, S. E. M., & Oleksuik, M. R. (2022). Satisfaction or connectivity?: Implications from the strong relationality model of flourishing couple relationships. *Journal of Marital and Family Therapy*, 48, 883–907. <https://doi.org/10.1111/jmft.12559>
- Galovan, A. M., Holmes, E. K., & Proulx, C. M. (2017). Theoretical and methodological issues in relationship research: Considering the common fate model. *Journal of Social and Personal Relationships*, 34(1), 44–68. <https://doi.org/10.1177/0265407515621179>
- Galovan, A. M., Orbuch, T. L., Shrout, M. R., Drebit, E., & Rice, T. M. (2023). Taking stock of the longitudinal study of romantic couple relationships: The last 20 years. *Personal Relationships*, 30, 174–216. <https://doi.org/10.1111/per.12452>
- Galovan, A. M., & Schramm, D. G. (2018). Strong relationality and ethical responsiveness: A framework and conceptual model for family science. *Journal of Family Theory & Review*, 10(1), 199–218. <https://doi.org/10.1111/jftr.12238>
- Giddens, A. (1992). *The transformation of intimacy: Sexuality, love and eroticism in modern societies*. Polity Press.
- Gillis, J. R. (1996). *A world of their own making. A history of myth and ritual in family life*. Oxford University Press.
- Gov.UK. (2021). Harnessing technology for the long-term sustainability of the UK's healthcare system: Report. Retrieved from <https://www.gov.uk/government/publications/harnessing-technology-for-the-long-term-sustainability-of-the-uks-healthcare-system>
- Gov.UK. (2022). A plan for digital health and social care. Retrieved from <https://www.gov.uk/government/publications/a-plan-for-digital-health-and-social-care/a-plan-for-digital-health-and-social-care>
- Hatfield, E., & Sprecher, S. (1986). Measuring passionate love in intimate relationships. *Journal of Adolescence*, 9(4), 383–410. [https://doi.org/10.1016/S0140-1971\(86\)80043-4](https://doi.org/10.1016/S0140-1971(86)80043-4)
- Hay, M. C. (2016). *Methods that matter: Integrating mixed methods for more effective social science research*. University of Chicago Press.
- Holmes, E. K., Galovan, A. M., Thomas, C. R., & Clyde, T. L. (2021). Becoming parents: Risk, protective factors, and key methodological considerations for future research. In A. Vangelisti (Ed.), *The Routledge handbook of family communication*. Routledge.
- Illouz, E. (2008). *Saving the modern soul: Therapy, emotions and the culture of self-help*. University of California Press.
- Ingold, T. (2007). *Lines*. Routledge.
- Jackson, A. Y., & Mazzei, L. A. (2012). *Thinking with theory in qualitative research*. Taylor & Francis.
- Jamieson, L. (1998). *Intimacy: Personal relationships in modern societies*. Polity Press.

- Jamieson, L. (2005). Boundaries of intimacy. In L. McKie & S. Cunningham-Burley (Eds.), *Families in society. Boundaries and relationships* (pp. 189–206). The Policy Press.
- Jamieson, L., Morgan, D., Crow, G., & Allan, G. (2006). Friends, neighbours and distant partners: Extending or decentring family relationships? *Sociological Research Online*, 11(3), 39–47. <https://doi.org/10.5153/sro.1421>
- Knopp, K., Schnitzer, J. S., Khalifian, C., Grubbs, K., Morland, L. A., & Depp, C. (2021). Digital interventions for couples: State of the field and future directions. *Couple and Family Psychology: Research and Practice*. Advance online publication. <https://doi.org/10.1037/cfp0000213>
- Latour, B. (1999). *Pandora's hope: Essays on the reality of science studies*. Harvard University Press.
- Law, J. (2004). *After method. Mess in social science research*. Routledge.
- Lucier-Greer, M., Birney, A. J., Gutierrez, T. M., & Adler-Baeder, F. (2018). Enhancing relationship skills and couple functioning with mobile technology: An evaluation of the Love Every Day mobile intervention. *Journal of Family Social Work*, 21(2), 152–171. <https://doi.org/10.1080/10522158.2017.1410267>
- Lupton, D. (2015). Quantified sex: A critical analysis of sexual and reproductive self-tracking using apps. *Culture, Health & Sexuality*, 17(4), 440–453. <https://doi.org/10.1080/13691058.2014.920528>
- Lupton, D. (2019a). The thing-power of the human-app health assemblage: Thinking with vital materialism. *Social Theory & Health*, 17(2), 125–139. <https://doi.org/10.1057/s41285-019-00096-y>
- Lupton, D. (2019b). Toward a more-than-human analysis of digital health: Inspirations from feminist new materialism. *Qualitative Health Research*, 29(14), 1998–2009. <https://doi.org/10.1177/1049732319833368>
- Lupton, D. (2020). A more-than-human approach to bioethics: The example of digital health. *Bioethics*, 34(9), 969–976. <https://doi.org/10.1111/bioe.12798>
- Lupton, D. (2021). The internet both reassures and terrifies: Exploring the more-than-human worlds of health information using the story completion method. *Medical Humanities*, 47(1), 68–77. <https://doi.org/10.1136/medhum-2019-011700>
- Lupton, D., & Leahy, D. (Eds.). (2021). *Creative approaches to health education: New ways of thinking, making, doing, teaching and learning*. Taylor & Francis.
- Markman, H. J., Hawkins, A. J., Stanley, S. M., Halford, W. K., & Rhoades, G. (2022). Helping couples achieve relationship success: A decade of progress in couple relationship education research and practice, 2010–2019. *Journal of Marital and Family Therapy*, 48(1), 251–282. <https://doi.org/10.1111/jmft.12565>
- Mason, J. (2004). Personal narratives, relational selves: Residential histories in the living and telling. *The Sociological Review*, 52, 162–179. <https://doi.org/10.1111/j.1467-954X.2004.00463.x>
- Mauthner, N. S. (2021). Karen Barad's posthumanist relational ontology: An intra-active approach to theorising and studying family practices. *Families, Relationships and Societies*, 10(1), 33–49. <https://doi.org/10.1332/204674321X1611601839112>
- Mazzei, L. A. (2014). Beyond an easy sense: A diffractive analysis. *Qualitative Inquiry*, 20(6), 742–746. <https://doi.org/10.1177/1077800414530257>
- McNeil Smith, S., & Landor, A. M. (2018). Toward a better understanding of African American families: Development of the sociocultural family stress model. *Journal of Family Theory & Review*, 10(2), 434–450. <https://doi.org/10.1111/jftr.12260>
- Morgan, D. H. J. (1996). *Family connections: An introduction to family studies*. Polity Press.
- Morgan, D. H. J. (2011). *Rethinking family practices*. Palgrave Macmillan.
- Murris, K., & Bozalek, V. (2021). Intra-action. In K. Murris (Ed.), *A glossary for doing postqualitative, new materialist and critical posthumanist research across disciplines*. Routledge.
- Pawson, R., & Tilley, N. (1997). *Realistic evaluation*. Sage.
- Pearson, J. C., Child, J. T., & Carmon, A. F. (2010). Rituals in committed romantic relationships: The creation and validation of an instrument. *Communication Studies*, 61(4), 464–483. <https://doi.org/10.1080/10510974.2010.492339>
- Pink, S., Sumartojo, S., Lupton, D., & Heyes LaBond, C. (2017). Mundane data: The routines, contingencies and accomplishments of digital living. *Big Data & Society*, 4(1), 1–12. <https://doi.org/10.1177/205395171770092>
- Randles, J. M. (2017). *Proposing prosperity? Marriage education policy and inequality in America*. Columbia University Press.
- Reber, J. S., & Slife, B. D. (2022). Psychology's flawed focus on individuals and individualism: A strong relationality alternative. In B. D. Slife, S. C. Yanchar, & F. C. Richardson (Eds.), *Routledge international handbook of theoretical and philosophical psychology* (pp. 30–54). Taylor & Francis.
- Reis, H. T., Aron, A., Clark, M. S., & Finkel, E. J. (2013). Ellen Berscheid, Elaine Hatfield, and the emergence of relationship science. *Perspectives on Psychological Science*, 8(5), 558–572. <https://doi.org/10.1177/1745691613497966>
- Renold, E. (2018). 'Feel what I feel': Making da(r)ta with teen girls for creative activism on how sexual violence matters. *Journal of Gender Studies*, 27(1), 37–55. <https://doi.org/10.1080/09589236.2017.1296352>
- Rhoades, G. K. (2015). The effectiveness of the within our reach relationship education program for couples: Findings from a federal randomized trial. *Family Process*, 54(4), 672–685. <https://doi.org/10.1111/famp.12148>
- Ribbens McCarthy, J., Hooper, C. A., & Gillies, V. (Eds.). (2013). *Family troubles? Exploring changes and challenges in family lives of children and young people*. Policy Press.

- Roseneil, S., & Budgeon, S. (2004). Cultures of intimacy and care beyond 'the family': Personal life and social change in the early 21st century. *Current Sociology*, 52(2), 135–159. <https://doi.org/10.1177/0011392104041798>
- Roseneil, S., Crowhurst, I., Hellesund, T., Santos, A. C., & Stoilova, M. (2020). *The tenacity of the couple-norm. Intimate citizenship regimes in a changing Europe*. UCL Press.
- Roseneil, S., & Ketokivi, K. (2016). Relational persons and relational processes: Developing the notion of relationality for the sociology of personal life. *Sociology*, 50(1), 143–159. <https://doi.org/10.1177/0038038514561295>
- Schadler, C. (2016). How to define situated and ever-transforming family configurations? A new materialist approach. *Journal of Family Theory & Review*, 8(4), 503–514. <https://doi.org/10.1111/jftr.12167>
- Schadler, C. (2019). Enactments of a new materialist ethnography: Methodological framework and research processes. *Qualitative Research*, 19(2), 215–230. <https://doi.org/10.1177/1468794117748877>
- Schramm, D. G., Galovan, A. M., & Goddard, H. W. (2017). What relationship researchers and relationship practitioners wished the other knew: Integrating discovery and practice in couple relationships. *Family Relations*, 66(4), 696–711. <https://doi.org/10.1111/fare.12270>
- Simpson, J. A., & Campbell, L. (2013). The blossoming of relationship science. In J. A. Simpson & L. Campbell (Eds.), *The Oxford handbook of close relationships* (pp. 3–10). Oxford University Press.
- Skivington, K., Matthews, L., Simpson, S. A., Craig, P., Baird, J., Blazeby, J. M., Boyd, K. A., Craig, N., French, D. P., McIntosh, E., Petticrew, M., Rycroft-Malone, J., White, M., & Petticrew, M. (2021). A new framework for developing and evaluating complex interventions: Update of Medical Research Council guidance. *British Medical Journal*, 374. <https://doi.org/10.1136/bmj.n2061>
- Slife, B. D., & Wiggins, B. J. (2008). Taking relationship seriously in psychotherapy: Radical relationality. *Journal of Contemporary Psychotherapy*, 39(1), 17–24. <https://doi.org/10.1007/s10879-008-9100-6>
- Smart, C. (2007). *Personal life*. Polity Press.
- Smith, D. (1988). *The everyday world as problematic: A feminist sociology*. Open University Press.
- Sprey, J. (2000). Theorizing in family studies: Discovering process. *Journal of Marriage and Family*, 62(1), 18–31. <https://doi.org/10.1111/j.1741-3737.2000.00018.x>
- Thompson, L., & Walker, A. J. (1982). The dyad as the unit of analysis: Conceptual and methodological issues. *Journal of Marriage and Family*, 44(4), 889–900. <https://doi.org/10.2307/351453>
- Thomson, R., Plumridge, L., & Holland, J. (2003). Longitudinal qualitative research: A developing methodology [editorial]. *International Journal of Social Research Methodology*, 6, 185–188. <https://doi.org/10.1080/1364557032000091789>
- Truman, S. (2020). Feminist new materialisms. In P. A. Atkinson, S. Delamont, M. A. Hardy, & M. Williams (Eds.), *The SAGE encyclopedia of research methods*. Sage.
- Umberson, D., & Thomeer, M. B. (2020). Family matters: Research on family ties and health, 2010 to 2020. *Journal of Marriage and Family*, 82(1), 404–419. <https://doi.org/10.1111/jomf.12640>
- United-Nations. (2019). World Marriage Data 2019. Retrieved from <https://www.un.org/development/desa/pd/data/world-marriage-data>
- Van der Tuin, I. (2018). Neo/new materialism. In R. Baridotti & M. Hlavajova (Eds.), *Posthuman glossary* (pp. 277–278). Bloomsbury.
- Wilkinson, E. (2012). The romantic imaginary: Compulsory coupledom and single existence. In S. Hines & Y. Taylor (Eds.), *Sexualities: Past reflections, future directions*. Palgrave Macmillan.
- Witney, T., Aicken, C., Gabb, J., & DiMartino, S. (2023). 'Assemblage thinking': A feminist new materialist analysis of a couple relationship app. [Manuscript submitted for publication].

**How to cite this article:** Gabb, J., Aicken, C., Di Martino, S., Witney, T., & Lucassen, M. (2023). More–than–relationship quality: A feminist new materialist analysis of relationship quality and the potential of digital couple interventions. *Journal of Family Theory & Review*, 15(4), 685–705. <https://doi.org/10.1111/jftr.12509>