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The Parental Care Motivational System and Why it Matters (for Everyone)

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Abstract

Although it is easy to assume that the psychology of parental care pertains only to parents and their children, this is not so. An emerging body of research on the *parental care motivational system* reveals implications for everyone. All normally-developing human beings are characterized by evolved psychological mechanisms that regulate parental caregiving. These mechanisms are responsive to superficial cues and so (among non-parents as well as parents) can be triggered by the perception of young children or other childlike things. Once activated, these mechanisms precipitate protective and nurturant responses. These responses manifest in many different ways, with implications for a wide range of psychological phenomena (many of which might appear, superficially, to be unrelated to caregiving)—including risk-averse attitudes, aggression, intergroup prejudice, moral judgment, impression formation, and mate preferences. This article provides an illustrative overview of empirical research documenting these implications, and identifies new directions for future research on the motivational psychology of parental care.

Keywords: Parental care; motivation; risk-aversion; prejudice; moral judgment; mating

In his pioneering textbook on social psychology, William McDougall (1908) devoted dozens of pages to the "parental instinct" and speculated broadly about its many implications. These included not only obvious implications for parent-child interactions, but also implications that transcend the family context entirely. McDougall wrote that the parental instinct "is the source, not only of parental tenderness, but of all tender emotions and truly benevolent impulses, is the great spring of moral indignation, and enters in some degree into every sentiment that can properly be called love" (McDougall, 1908, p. 275).

Since then, there has accumulated an extensive empirical literature on parenting (e.g., Bornstein, 2002). That literature focuses on the subset of people who actually are parents, and on their interactions with their children. Indeed, it might be easy to assume that the psychology of parental care pertains *only* to parents and their children. That assumption would be wrong. There is an emerging body of research that draws upon the conceptual principles that informed McDougall's analysis over a century ago, and reveals evidence consistent with his speculations about wide-ranging implications. This new body of research focuses not on parenting, per se, but instead on underlying psychological mechanisms that comprise a kind of *parental care motivational system*. This article provides an overview of this motivational system and its many implications—not just for parents and their children, but for everyone.

The Parental Care Motivational System

The concept of a parental care motivational system follows from an evolutionary perspective on human motivation. Within an evolutionary framework, motivation refers not simply to subjective experiences (e.g., needs or goals), but instead to underlying regulatory systems—suites of mechanisms that evolved to regulate specific kinds of behavioral responses that, in ancestral populations, had implications for genetic reproduction (Schaller, Kenrick, Neel, & Neuberg, 2017; Tooby, Cosmides, Sell, Lieberman, & Sznycer, 2008). Some motivational

mechanisms regulate responses that had implications for survival; other motivational mechanisms regulate responses that had implications for mating and the consequent production of offspring. But the mere production of offspring would have been a reproductive dead-end unless those offspring survived to maturity and consequently produced offspring of their own. This is a nontrivial reproductive problem because humans are slow to mature to reproductive age. (Throughout much of our species' evolutionary history, development was characterized by an infancy phase during which offspring were incapable of defending themselves against predators or engaging in other behaviors necessary for survival; and even after infancy, additional years of development elapsed before children actually matured.) It is for this reason, it appears, that there evolved specific psychological mechanisms that regulate parental caregiving behaviors (Geary, 2016; Rilling, 2013; Preston, 2013). These parental behaviors include protective responses that helped offspring to survive, and additional nurturant responses that helped offspring to thrive.

If indeed a regulatory system of this sort evolved, then it must be considered part of a genetically-endowed human nature. In other words: The parental care motivational system is not exclusive to people who actually are parents; its physiological bases—and psychological manifestations—would be expected to characterize all normally-developing human beings.

How the system works

Specific motivational systems are typically associated with specific emotional experiences (Beall & Tracy, 2017), and the parental care system is no exception. McDougall (1908) identified the characteristic emotion as *tenderness*. Empirical research suggests that tenderness is distinct from superficially similar affective experiences (e.g., empathy) and has many of the characteristics of a “basic” emotion (Kalawski, 2010).

Additionally, as with other evolved motivational systems, activation of the parental care system—as indicated by the arousal of tenderness and associated behavioral responses—is stimulated by the perception of functionally-relevant things. Among parents, the most obvious such things are one's own actual offspring. But other things can activate the system too. Inferences about functional-relevance are highly automatized, and are often made on the basis of superficial cues. The parental care motivational system is responsive to superficial cues that are diagnostic of infancy—such as big eyes, small noses, and other baby-ish facial features that Lorenz (1943) referred to collectively as *kinderschema*. Consequently—among parents and non-parents alike—the parental care system can be triggered by the perception of *any* young child (especially those who are perceived subjectively to be cuter; Glocker et al., 2009). It can also be triggered by the perception of juvenile non-human animals such as kittens and puppies (Sherman, Haidt, & Coan, 2009), and even by the perception of baby-faced adults (Zebrowitz & Montepare, 2008).

Once activated, the parental care motivational system regulates behavioral responses toward the stimulus that triggered its activation. This general principle has proven useful in research testing specific hypotheses about the implications of the parental care system (discussed more fully below). Additionally, people differ in the extent to which relevant stimuli actually trigger the system and elicit a “parental” response. These individual differences are readily measurable with self-report measures such as the *parental care and tenderness* (PCAT) questionnaire, which includes subscales assessing conceptually-distinct protective and nurturant responses (Buckels, Beall, Hofer, Lin, Zhou, & Schaller, 2015; Hofer, Buckels, White, Beall, & Schaller, in press). Parents generally have higher PCAT scores than non-parents, and women

have higher scores than men; but even within these demographic categories there are substantial individual differences. These measurable individual differences provide a further tool for testing hypotheses about the implications of the parental care system.

Empirical Research Documenting Implications for Parents *and* Non-Parents

An important function of parental caregiving is the protection of vulnerable children from sources of threat (e.g., predators, infectious diseases). It follows, therefore, that activation of the parental care motivational system may predict hypervigilance to potential threats, and also predict risk-averse attitudes of various kinds.

Consistent with this reasoning is evidence that, compared to non-parents, parents perceive potentially menacing men be more formidable and threatening (Fessler, Holbrook, Pollack, Hahn-Holbrook, 2014). But, even among parents, the system may be activated especially strongly under some circumstances—such as when children are perceptually present or when other contextual cues make one’s parental role especially salient. This implies predictable context-contingent variation in parents’ inclinations toward hypervigilance and risk-aversion, and there is evidence that this is so. For instance, following an experimental manipulation that made their parental role temporarily salient, parents expressed greater aversion to risk and reduced trust in strangers (Eibach & Mock, 2011).

Among non-parents too there is evidence linking the parental care motivational system to cautious behavior and risk-averse attitudes. In one set of experiments (Sherman, Haidt, & Coan, 2009) non-parents were randomly assigned to one of two conditions. In one condition they viewed photographs of cute kittens and puppies (stimuli that arouse a “parental” emotional response); in the other condition they viewed photographs of mature cats and dogs (which are less likely to elicit a “parental” response). All participants subsequently performed a task requiring careful motor movements. Results revealed that participants who saw kittens and puppies performed the task more successfully, indicating that activation of the parental care system inhibits recklessness, even among non-parents. Results from another set of experiments revealed that when one’s role as a “parental” care-giver was temporarily salient, people—both parents and non-parents—expressed especially negative attitudes toward a potentially threatening out-group (Gilead & Liberman, 2014; see Figure 1 for details on one of these experiments, and its results.) These and other results (e.g., Hahn-Holbrook et al., 2011) suggest that, while the parental care motivational system may indeed promote caring responses toward some things (including but not limited to individuals’ own offspring; Preston, 2013), it also precipitates more aversive responses to other things (including other people) that are perceived to be a source of threat.

A conceptually analogous phenomenon occurs in the domain of moral judgment. Many behavioral norms serve to mitigate dangers of various kinds; and so people who violate norms may be perceived to pose an indirect threat—not just to oneself, but to offspring and to vulnerable children more generally. Therefore, just as activation of motivational systems regulating self-protective behavior can lead to harsher moral judgments of norm violations (e.g., Chapman & Anderson, 2014), activation of the parental care motivational system may also lead to harsher moral judgments.

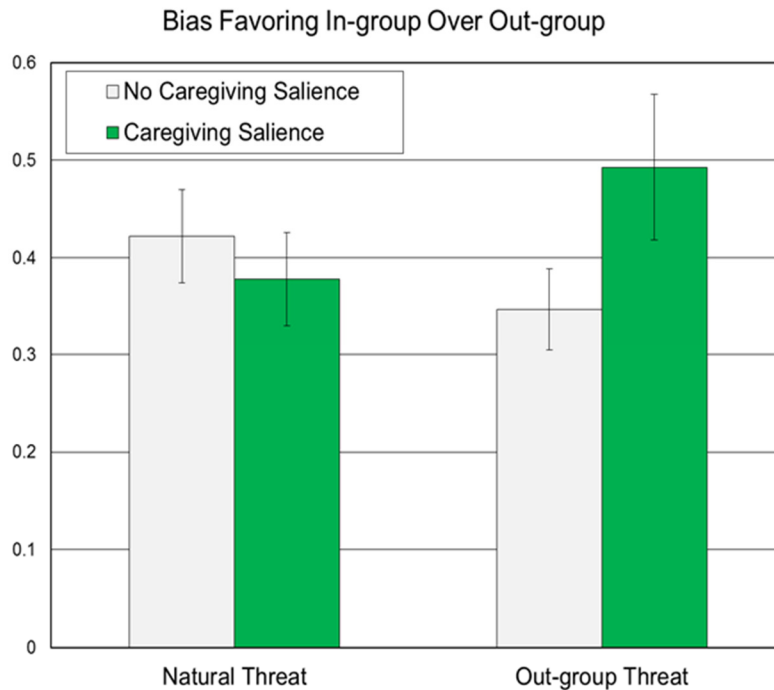


Figure 1. Results from 450 Americans—most of whom were non-parents—indicating prejudicial attitudes regarding an ethnic outgroup (Arab-Americans) as a function of whether or not perceivers were temporarily aware of threat posed by the outgroup (“Out-Group Threat” vs. “Natural Threat” control condition), and whether or not the parental care motivational system had been activated (“Caregiving Salience” vs. “No Caregiving Salience”). Results indicate that when an ethnic outgroup is perceived to pose a threat, activation of the parental care system leads to increased prejudice. (Figure based on results reported by Gilead & Lieberman, 2014.)

Results from multiple studies, employing complementary methods, indicate that this is so. When parents’ parental role was temporarily salient, they judged norm violations more harshly (Eibach, Libby, & Ehrlinger, 2009). When non-parents temporarily adopted a “parental” caregiving role, they too judged norm violations more harshly (Hofer, 2015). Additionally, non-parents who scored higher on a trait measure of parental care and tenderness (PCAT) also judged norm violations more harshly (Buckels et al., 2015). The latter effect held even when controlling statistically for conceptually related variables (e.g., empathic concern), indicating a unique effect of non-parents “parental” inclinations.

These findings provide empirical substantiation to McDougall’s (1908, p. 275) suggestion that the “parental instinct” is “the great spring of moral indignation.” But McDougall also observed that it is the source of “truly benevolent impulses.” It is with that observation in mind that it’s important to note that the relation between PCAT and harsher moral judgments was specific to judgments about transgressions perpetrated by *adults*. When an identical transgression was perpetrated by a child, PCAT predicted more forgiving moral judgments instead; and whereas the former effect reflects an inclination to protect, the latter effect reflects an inclination to nurture (Hofer et al., in press; for details, see Figure 2).

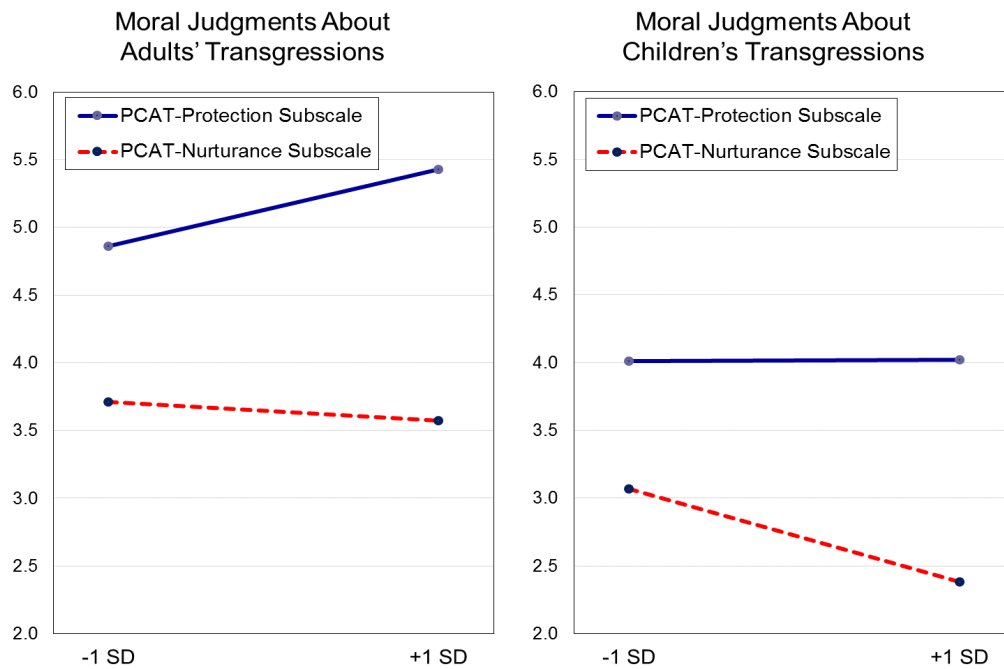


Figure 2. A sample of 410 adults—including both parents and non-parents—completed a “parental care and tenderness” questionnaire comprised by two subscales (“PCAT-Protection” and “PCAT-Nurturance”). They also made moral judgments about transgressions perpetrated by either adults or children. This figure depicts the unique effects of PCAT-Protection and PCAT-Nurturance in predicting the harshness of these moral judgments. (Effects are depicted in the form of regression lines, statistically controlling for effects of the other PCAT subscale, and controlling also for participants’ sex and parental status.) Among other things, the results show that more dispositionally “parental” adults judged other adults’ transgressions more harshly, an effect entirely attributable to inclinations toward protectiveness; in contrast, more “parental” adults judged children’s transgressions *less* harshly, and this effect was entirely attributable to inclinations toward nurturance. (Figure based on results reported by Hofer et al., in press.)

Individual differences in activation of the parental care motivational system uniquely predict other social psychological phenomena too. In the domain of close relationships, PCAT predicts mate preferences, and these preferences are specific to one particular category of traits: More “parental” adults—both parents and non-parents—more strongly prefer mates characterized by traits connoting the potential to be a responsible partner and/or parent (Buckels et al., 2015). And in the domain of impression formation, PCAT predicts the positivity of non-parents’ impressions of baby-faced men (Buckels et al., 2015).

Collectively, this body of evidence reveals that activation of the parental care motivational system has implications for a wide range of psychological phenomena—many of which might superficially appear to have nothing to do with parenting whatsoever. These results also show that the evolved psychology of parental care matters not just for parents and their children, but for everyone.

New Questions and Emerging Research Directions

Although scientists have spent decades studying the evolutionary, physiological, and developmental bases of parenting behavior (Belsky, 2012; Rilling, 2013; Royle, Smiseth, & Kölliker, 2012), there is still a lot that we don't know about the parental care motivational system, and its implications beyond the domain of parent-child interactions. The preceding summary focused especially on avoidance-oriented responses of various kinds (e.g., risk-aversion, inter-group prejudice). There are, of course, implications for approach-oriented responses too. Indeed, the evolved psychology of parental care may lie at the root of human capacities for compassion and altruism (Goetz, Keltner, & Simon-Thomas, 2010; Preston, 2013). It may be fundamental to other kinds of prosocial inclinations too, such as generativity—which refers to a quasi-parental concern for the well-being of future generations. Measured as an individual difference variable, generativity not only predicts successful parenting practices, it also is associated with civic engagement, life satisfaction, and other valued outcomes (McAdams, 2013). These speculations have implications—yet to be rigorously articulated or tested—for exactly how and when prosocial tendencies might manifest.

It will also be worthwhile to explore implications for additional behaviors that, in ancestral environments, might have helped offspring not merely to survive, but to thrive. Consider, for instance, potential consequences for interpersonal communication. Humans are a highly social species. Fitness benefits accrued to offspring (and indirectly to their parents) to the extent that those offspring succeeded socially—by forging friendships, attaining social status, and attracting mates. In order to do so, offspring needed to navigate complex arrays of social norms and cultural traditions. Parents likely served as key conduits for information about these norms and traditions, and about how best to navigate them. The implication is that activation of the parental care motivational system may have consequences for specific kinds of information that people communicate to specific kinds of people.

Another promising direction for future research pertains to relations that the parental care system may have with other motivational systems. Recent empirical results reveal that activation of the parental care system temporarily inhibits interest in short-term mating; and, reciprocally, activation of a mating motive temporarily inhibits the typical tenderness response to infants (Beall & Schaller, in press; for details see Figure 3). These results suggest a mutually inhibitory relationship between motivational systems that regulate behavior in the domains of mating and parenting—which is consistent with biological perspectives on the trade-off between mating effort and parenting effort (e.g., life history theory; Del Giudice, Gangestad, & Kaplan, 2016). If indeed such a trade-off manifests at a psychological level of analysis, it may have many additional implications that remain to be discovered.

Finally, it will be useful to probe more deeply into the underlying architecture of the parental care motivational system. Recent research supports a conceptual distinction between two different kinds of “parental” responses: protection and nurturance (Hofer et al., in press). These different responses may reflect context-contingent manifestations of single set of underlying mechanisms. Alternatively, they might plausibly reflect the operation of two distinct sets of underlying motivational mechanisms—one that regulates protective behaviors (which may represent a “re-purposing” of mechanisms that originally evolved in the service of *self*-protection), and another that regulates nurturant behaviors (which may have evolutionary origins that are specific to the parent/offspring relationship). Different kinds of evidence—behavioral, neurochemical, phylogenetic—will be required to determine whether the parental care

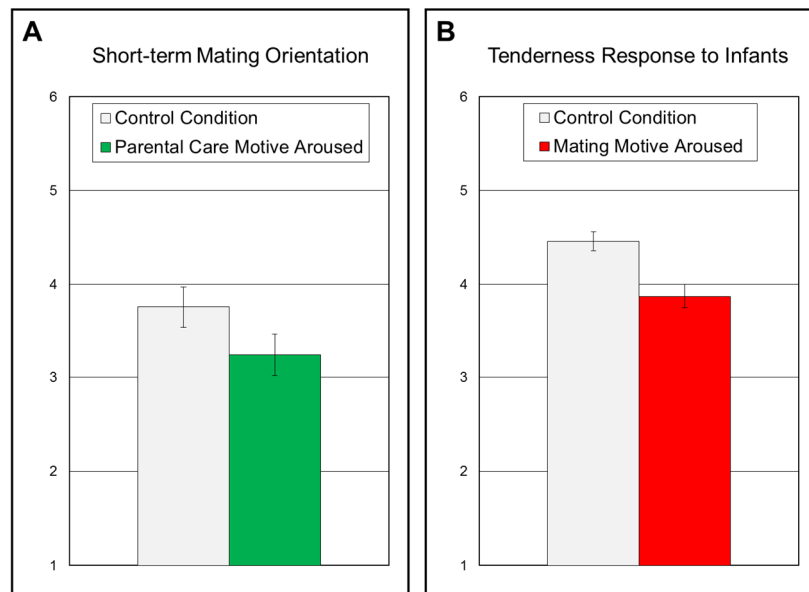


Figure 3. Two experiments tested whether activation of a parental care motive temporarily inhibited activation of a mating motive, and vice versa. In one experiment ($n = 92$, all non-parents), participants were presented with images depicting either abandoned kittens and puppies (“Parental Care Motive Aroused”) or abandoned furniture (“Control Condition”), and then completed a measure assessing short-term mating orientation. Results (depicted in Panel A) show that the arousal of a parental care motive was associated with a temporary decrease in short-term mating orientation. In the other experiment ($n = 308$, including both parents and non-parents), participants were led to imagine either an erotic encounter with an attractive stranger (“Mating Motive Aroused”) or a walk through a suburban neighborhood (“Control Condition”), and then completed a task assessing the extent to which cute infants aroused feelings of tenderness. Results (depicted in Panel B) show that the arousal of a mating motive was associated with a temporary decrease in “parental” tenderness responses. (Figure based on results reported by Beall & Schaller, in press).

motivational system is best characterized as a single coherent regulatory system, or whether it might more appropriately be characterized as a complementary pair of regulatory systems with distinct evolutionary histories, distinct physiological bases, and distinct implications for psychological phenomena.

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Recommended Reading

Buckels, E. E., Beall, A. T., Hofer, M. K., Lin, E. Y., Zhou, Z., & Schaller, M. (2015). (See References). A representative empirical article that—across multiple studies involving both parents and non-parents—documents a wide range of psychological outcomes that are predicted by individual differences in activation of the parental care motivational system.

Hahn-Holbrook, J., Holbrook, C., & Haselton, M. G. (2011). Parental precaution: Neurobiological means and adaptive ends. *Neuroscience and Biobehavioral Reviews*, *35*, 1052-1066. A review article that focuses on the protective tendencies that are fundamental to parental caregiving, and that have implications for avoidant and/or antisocial behavior.

Preston, S.D. (2013). (See References). A review article that provides a detailed overview of evolved mechanisms that facilitate parental caregiving, and explains how these mechanisms may underlie prosocial behavior more generally.

Schaller, M., Kenrick, D. T., Neel, R., & Neuberg, S. L. (2017). (See References). An overview of implications that follow from an evolutionary approach to human motivation, with illustrative research examples—including examples pertaining to the parental care motivational system.