Basic Needs Satisfaction and Its Relation to Sociomorality Capacities and Behavior

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Abstract

Interdisciplinary research is demonstrating the importance of physiological and neurobiological development for adult functioning. Recently, the theoretical linkages between early experience and adult morality have been drawn. We examine the relation of early experience to basic needs fulfillment and their relation to adult moral functioning. Using the Basic Needs Satisfaction Scale (BNSS), a short, comprehensive scale with two subscales: Life Effectance and Life Discouragement. In two studies, we demonstrate evidence of basic needs satisfaction mediating the relationship between childhood experience and morality. We also examine which retrospective factors in childhood are most predictive of moral outcomes in adulthood. These results suggest that comprehensive satisfaction of basic needs may help explain the mechanism behind key relationships between childhood experiences and outcomes in adulthood that have been previously established by others.

AQ1

Keywords

Morality
Triune ethics
Basic needs
Empathy
Evolved developmental niche

What is morality? How is it related to basic needs? We examine these questions throughout this chapter. Here is the basic argument in a nutshell. Humans evolved a moral sense. The moral sense is reliant on social and self-regulatory capacities. These capacities are shaped in early life. Morality too then appears to be highly shaped by experience in the early years of life when basic biosociality is formed. Optimal moral functioning is relationally attuned, compassionate and communal at the intuitive level, but this develops from experience after birth. Such morality relies on well-functioning neurobiological structures such as the stress response. When neurobiological structures are under- or misdeveloped mis-developed , an individual's morality becomes reliant on survival systems which are innate. These are primitive parts of the brain that when dominant foster a self-protectionist orientation (not compassionate or communal). Thus, early life experience must be one where evolved basic needs are met or else the more primitive systems will be more dominant in personality or and more easily triggered. Below, we take each part of the argument piece by piece. After that we ~~will~~ present two empirical studies.

AQ2

Humanity's Moral Sense

In an effort to show that communal morality is part of human evolution, Charles Darwin (1871) identified several characteristics that accumulated through the tree of life: social pleasure, concern for the opinion of others, memory for one's goals and outcomes, habit development, and self-control. Darwin noted that these characteristics were common among "primitive people" but not so much his fellow British compatriots. Why the difference? Although Darwin assumed these were inherited characteristics, data suggests that ~~postnatal~~*postnatal* development change to "experience" is key to their development.[1] Narvaez has pointed to the importance of the evolved nest (evolved developmental niche) for normal development of human nature, including the moral sense (Narvaez, 2015, 2016, 2018). Darwin noted that his compatriot women displayed the characteristics but not so much his fellow males. Why a gender differences? Males are more significantly harmed by toxic early stress (Schore, 2017). Narvaez suggests that each of the moral sense features has neurobiological underpinnings shaped by experience. Darwin toyed with the idea that the moral sense was more powerful than natural selection (Darwin, 1871; Loye, 2000).

Early Shaping of Self-Regulatory Capacities Undergird Social Capacities

We discussed the effects of stress on health in Chapters 2 and 3 fix period . Stress undermines the development of all neurobiological systems. To illustrate the effects of early stress on self-regulation, we can take the vagus nerve as an example.

The autonomic system regulates physiological and behavioral adaptation in every situation and is comprised of the parasympathetic, sympathetic and social engagement systems (Porges, 2017). The vagus nerve facilitates the parasympathetic and the social engagement systems. The vagus nerve is the 10th cranial nerve, connecting all major systems of the body (e.g., cardiac, respiratory, digestive). The parasympathetic system governs survival functions such as breathing and heart rate, in contrast to the sympathetic system which is governed by other nervous system components and operates muscles and mobilization. The social engagement system involves multiple cranial nerves, including the vagus nerve, and facilitates involuntary actions of the voice, face, and heart. Under normal conditions, the parasympathetic system is focused on resting and rebuilding throughout the different activities of the day, the sympathetic system mobilizes for everyday activities and the social engagement system facilitates social interaction. Under conditions of threat, the first response in normally developed persons is social—to turn to others for comfort or protectionist. If that does not alleviate the feeling of threat, the sympathetic system is triggered into fight or flight reactions, and if that is unsuccessful the parasympathetic system is triggered into dissociation, shock, and immobility.

The vagus nerve begins myelination after birth from mother's voice, touch, and eye contact. When caregivers are warm and responsive to needs, a baby's vagus nerve is likely to be properly myelinated so that the social engagement system is predominant, allowing for intimate and flexible relationships. But when early life is toxic, with missing critical support such as the evolved nest, the vagus nerve may not develop properly ("vagal tone"), influencing health and social capacities (Porges, 2011). Several key components of social intelligence are reliant on proper vagus nerve function (i.e., vagal tone), such as empathy and spontaneous feeling in social interactions, interpersonal response, and awareness. Instead, the stress response will be more easily triggered, heightening a sense of anxiety, anger, and fear. The stress response shifts blood flow from the brain to muscles, shifting perception. In a healthily developed individual, the stress response operates appropriately across situations, as described below. But in a toxically stressed individual, undercared for, traumatized, or abused in early life, the stress response is hyperreactive and hard to calm.

The Moral Sense Relies on Social and Self-Regulatory Capacities

Perhaps you are picking up on what all the physiology has to do with moral functioning. An individual's body learns from early caregiving how to self-regulate (e.g., manage stress) because self-regulatory capacities use the same hormones that relate to sociality, including capacities to detect and cope with stressful social experiences.

A person in a state of alarm (stress response) cannot use their full capacities. A person whose physiological systems are misdeveloped will run out of self-control fuel quickly and will not be able to sustain the 'good mood' required for cooperative behavior (Niehoff, 1999). A stress-reactive individual may also have difficulty with cooperative and compassionate behavior. Because what happens under stress? change to "behavior because of what happens under stress." Ask yourself: when are you most compassionate?—when you are under pressure to complete a project, when you are anxious about social criticism, or when you are relaxing with friends on the porch? Right, probably in a relaxed situation because stress affects our sociomoral response. The stress response is linked to various components of moral functioning like self-regulation, empathy, personal distress, perspective taking, judgment, sensitivity, and perception, which will be discussed below. All of these sociomoral factors are influenced by the state of the physiological systems. Even with a low level of feeling that the world is unreliable and that people are untrustworthy, morality may be hampered. Triune ethics meta-theory describes how early stress can shift one's disposition toward self-protectionist ethics and after "and" put "alter" the mindsets that guide moral behavior generally.

Triune Ethics Meta-Theory

Triune ethics meta-theory is a psychobiological theory of moral development and moral functioning (Narvaez, 2008, 2014, 2016). It offers a neurobiologically based explanation for different ethical or moral mindsets.[2] As noted above, our social capacities are influenced by our neurobiology. Three distinctive moral systems, rooted in the evolved strata of the brain, propel human moral action on an individual and group level. See Tables 4.1 and 4.2 for some general features of basic ethical mindsets.

Table 4.1

Characteristics of protectionist ethics: safety, vicious, detached Capitalize, as all table and figure titles should be throughout the book

	Protectionism (face to face hierarchical orientation: Oppositional or withdrawn)	**Protectionist imagination Capitalize (abstraction capabilities added to face-to-face orientation)**
Physiological context	Stress response from perceived threat (often subtle), poor vagal tone, draws energy away from higher order brain areas	Routinized *Vicious*: Executive functions change to "Fueled by self-protective emotions" *Detached*: Dissociation from emotion
Moral dispositions	Basic distrust Defensive aggression or defensive appeasement	Controlling of self/others *Vicious*: Deception, ruthlessness for "moral" goal *Detached*: Relationally detached
Moral concerns	Ingroup loyalty, purity, tradition, rituals, following precedent	*Vicious*: Scapegoating, eliminationism *Detached*: Rules, mechanistic systems
Moral self in action	Exclusionary	*Vicious*: Cruel *Detached*: Aloof
Kohlberg moral judgment stage preference	Stage 1 (avoidant of punishment) Stage 2 (tit for tat)	*Vicious*: Stage 4 as law and order *Detached*: Stage 5 as theory

Table 4.2

Characteristics of relationally attuned ethics: engagement and communal imagination

	Engagement (face to face relational attunement)	**Communal imagination Capitalize (abstraction capabilities added to engagement)**
Physiological context	Oxytocin, serotonin dominant; vagal tone	Executive functions Change to "Fueled by prosocial emotions (care, play)"
Moral dispositions	Love (positive connection) and fellow feeling in the moment: reciprocity, responsiveness	Fellow feeling abstracted: Justice, mercy
Moral concerns	Inclusive of immediate other, empathy/sympathy, perspective taking	Broadly inclusive of "others," egalitarianism
Moral self in action	Open, receptive	Hospitable, tolerant
Kohlberg moral judgment stage preference	Stage 3 (personal relational)	Stage 5 as communalism Stage 6 (principled communal cooperation)

The *protectionist* ethic is rooted in survival systems which are shared with all animals and are present at birth. When an instinctive survival orientation is used in making decisions and taking action, trumping other options, it becomes a protectionist ethic. The protectionist ethic gets triggered by threat—physical or psychological. We all have this ethic within us—when we are motivated to withdraw from a relationship or lash out in self-defense. This sense of ongoing immediate threat can become a dispositional social orientation if trauma, abuse or neglect was experienced during a sensitive period in life (sensitive periods are first five years, early adolescence, early adulthood, therapy). In this case, prior experience is imposed on the present as the stress response kicks in and dominates behavioral choices. A protectionist ethic perceives the world hierarchically—i.e., dominance versus submission or one-up/one-down. There are two basic forms of face-to-face protectionism, both based in distrust: one is fueled more visibly by anger and results in aggression (opposition) and one is fueled more visibly by fear and results in emotional and psychic disengagement (withdrawal). Dispositionally, a person can favor one or the other or flip between them. See Table 4.1 for more descriptors of this face-to-face ethic in the second column.

Parents and communities encourage the dominance of protectionism through undercare—not providing for basic needs—as well as trauma, abuse and neglect. That is, early life stress shapes disposition for protectionism. How much a person resorts to using these innate instincts for self-protection in moral decisions and actions is partially determined during the preverbal years of life. The protectionist ethic is based largely in closed systems that are difficult to influence once they are molded in early childhood. Without intervention, the individual is left with the phylogenetically older protectionist ethic as a dominant mode for the moral life. Although there may be some plasticity after the initial groundwork is laid, flexibility to change brain architecture may require extensive therapy to recondition the mind/brain (e.g., re-parenting, mindfulness meditation, etc.).

The reader might ask, isn't a protectionist ethic an advantage in the modern world? Aren't there terrorists out to get us? Isn't it adaptive to 'be on edge'? Certainly, in some situations (e.g., walking in a dark alley) we want to be on alert. The problem is when it is routine. The stress response impairs higher order thinking (Arnsten, 2009), which in this case is not conducive to getting along with others cooperatively. When the individual's traumatic conditioned past rears its ugly head and takes over attention and guides action, it is detrimental to present cooperative functioning. Unless therapy or other intervention has increased control over the power of the past, the individual will be propelled into a protectionist mindset. "Aggression directed against the wrong person, at the wrong time, in the wrong place, for the wrong reason or with the wrong level of intensity is no longer protective or competitive but violent" (Niehoff, 1999, p. 76). The protectionist ethic undermines intelligence, sociality as well as morality (Narvaez, 2014).

The protectionist ethic is part of lower evolution (Darwin-1; Loye, 2000), driven by goodness of fit and self-interest and has its place for individual and group survival. Protectionism is not the driving force of mammalian

and human evolution as identified by Darwin (Darwin-2) however; that force resides primarily in the second ethic, engagement.

The engagement ethic is about *attuned relationship*. It is about connecting and bonding in the moment, right now. The social engagement system, described earlier as part of vagal function, is part of the capacities that underlie relational attunement but it also involves endocrine systems like the oxytocin system which facilitates bonding (Carter & Porges, 2013). How much you are able to maintain an engagement ethic may be based in brain systems and intuitions formed during right brain hemisphere growth in early life, when you could not yet speak (Schore, 2003a, 2003b). When a young child's needs are met without question, delay or distress, their body/brain learns to expect the world to be benevolent (Erik Erikson's trust, 1950). The personality does not shape itself around self-protection for basic needs but a sense of safety and social enjoyment. Engagement involves limbic resonance, a "mind melding" of sorts with others (Lewis, Amini, & Lannon, 2000; described in Chapter 2). Such a connection is critical for deep engagement and for full moral capabilities. See Table 4.2 for more descriptors of this ethic.

Humans share capacities for relational attunement with other primates but have further moral capacities that are largely ours alone, the imagination ethic. Imagination ethics are about *abstraction*, or pulling away from the present moment. They can take different forms. Which forms become habitual may reflect early experience (Schore, 2013). Ideally imagination links with the prosocial orientation of the engagement ethic becoming a *communal imagination*, guided by fellow feeling and relational commitment. See Table 4.2 for further elements. However, if the imagination is tied up with a protectionist ethic Change to "self-protectionism" , it can become a vicious imagination, which emphasizes control over self or others (see Table 4.1, last column). If one dissociates from emotions and relational commitment, imagination can be detached and capable of great damage to others.

These ethics and which one or ones we prefer are deeply related to our physiology, which drives our psychology. Although our right hemisphere gathers experiences to form intuitions, they are transferred to the left hemisphere which categorizes and sorts them and then these categories and filters shape right hemisphere data gathering, affecting our perceptions (McGilchrist, 2009). When one is in a particular mode of being, it becomes a mindset with particular affective expectancies (Wilson, Lisle, Kraft, & Wetzel, 1989). It affects what one attends to, the perceptual cues one notices (including threat cues), and perceived affordances (social, physical action possibilities). It affects what rhetoric is attractive and what reasoning seems "reasonable" and what goals are preferred. In fact, a mindset is so basic, it affects early processing of stimuli. Goal-based sensory sampling takes place at the very early stages of visual processing (Serences, Ester, Vogel, & Awh, 2009; Zhang & Luck, 2009). Within about 100 milliseconds after a visual cue, subcortical brain structures receive highly processed sensory input from the cortex—the interpreter. This shifts the typical focus of early sensory processing as a subcortical activity. Instead, subcortical structures like the brainstem, midbrain, and thalamus not only respond to external sensory information but the preferences of the cortical system (Barrett & Bar, 2009).

We may have learned to habitually use one mindset or another based on experience during sensitive periods and patterns and routines we have experienced or adopted. The early years of experience sensitize a child to certain aspects of the environment. (Sensitization is a learned fear due to aversive experience.) For example, in a household with a violent father, going on alert add quotes: "on alert" when the father arrives home. In this way too, certain situations may evoke a mindset that we normally otherwise do not use.

Meeting Basic Needs in Early Life

Basic needs identified by Abraham Maslow (1970) include physiological (measures that maintain homeostasis, like adequate liquid and food), safety (e.g., protection and stability), belonging and love (intimate relationships), esteem (a sense of competence and self- and other-esteem), and self-actualization. Researchers have developed numerous measures to examine these and similar constructs. In Chapter 2 , we described the development of a composite measure of Fiske's (2004) BUCET list of basic needs: belonging, understanding, control, self-enhancement, and trust. In Chapter 3 , we described the validation of a similar composite measure addressing

basic needs satisfaction in early life. In this chapter, we examine the relation of basic needs satisfaction to moral behavior.

AQ3

Developmental psychological studies are beginning to examine nest components, demonstrating their effects on social and moral capacities. For example, breastfeeding length is positively related to the development of young children's inhibitory control and conscience (guilt and concern after wrongdoing) longitudinally over three years (Narvaez et al., should be "Narvaez, Gleason et al.," 2013). In the same study, maternal social support positively correlated with child cooperation at 18- and 30 months, child social competence at 24 months, and reduced aggressive behavior at 18 months. In a cross-sectional study in China of maternal report of their 3–5-year-old child's experience, breastfeeding *length* was positively correlated with child's inhibitory control and conscience; affectionate touch experience was significantly positively related to behavior regulation, empathy, and concern; these all held after controlling for maternal responsivity, income and education (Narvaez et al., Should be "Narvaez, Wang, et al.," 2013).

Affectionate touch and little corporal punishment are correlated with the development of empathy and self-regulation in young children (Narvaez et al., 2018). Higher levels of evolved nest (affection, play, family togetherness) experienced in childhood as reported by adults was correlated with pathways from EDN history to secure attachment, mental health, perspective taking and the engagement ethic (relational morality) instead of self-protectionist morality (Narvaez, Wang, & Cheng, 2016).

Current Studies

In the first study, we wanted to see if there was a relation between basic needs satisfaction add comma after childhood experience, moral capacities, and ethical orientation.

Study 1

Method

Participants and General Procedure

A general population sample of 350 adults from the United States was recruited and paid through Amazon Mechanical Turk. Individuals were electronically provided with an explanation of the study, a consent form, and the study measures. All study measures were compiled into a survey that was administered in a single online session using Qualtrics. Those who decided to participate were paid about $3.00 per hour for their completion of the survey, which took on average approximately 30 minutes. Of the recruited participants, 336 successfully completed the survey (results from those who did not finish the survey, or who spent fewer than 10 minute sanswering the questions were excluded from final analyses). The final sample resulted in 336 participants (44.6% male; ages 19–78 years; $M_{age} = 36.61$). Participants self-identified as the following: 76.2% Euro-American Caucasian, 11.0% African American, 7.7% Asian, 6.0% Hispanic/Latino, 1.2% Indian/Native American. Annual household income variability is as follows: 11.6% less than $15,000; 25.3% $15,000–$30,000; 21.7% $30,000–$50,000; 19.0% $50,000–$75,000; 12.5% $75,000–$100,000; 9.8% over $100,000.

Measures

Participants completed measures regarding social desirability, basic needs, their ethical orientation, and interpersonal characteristics.

Social Desirability

The shortened Marlowe-Crowne Social Desirability Scale was used to assess social desirability (Crowne & Marlow, 1960; eight items, e.g., "Are you quick to admit making a mistake?"). Responses were rated on a 3-point Likert-type scale (1 = *No*, 2 = *Don't know*, 3 = *Yes*).

Basic Needs

We used the Basic Needs Satisfaction Survey (described in Chapter 2), which has two subscales: Effectance (11 items, e.g., "People care about me"; $\alpha = .87$) and Discouragement (8 items, e.g., "My life is meaningless": $\alpha = .88$) using a Likert-type scale (1 = *Strongly disagree*, 5 = *Strongly agree*). High scores indicated higher agreement toward each construct.

Childhood Experience Measures

Measures of adverse childhood experiences, attachment style, and early developmental environment were included. Unless otherwise noted, mean scores were used in analysis.

Attachment

Attachment style was assessed using the Relationships Questionnaire (Bartholomew & Horowitz, 1991). This instrument contains four paragraph long descriptions of each of the attachment styles (secure, fearful avoidant, preoccupied, and dismissive avoidant) and asks participants to first select the description that best describes them, and four additional items, rate the extent to which each description corresponds to their general relationship style. The ranking was on a 7-point Likert-type scale (1 = *Not at all like me*, 7 = *Very much like me*). Secure attachment was measured using the ranking provided for the secure prototype and insecure attachment was a mean of the other three items added together.

Evolved Developmental Niche

Early developmental environment was assessed using The Evolved Developmental Niche History measure (EDNh; Narvaez, Wang, et al., 2016), a self-report measure of adult recollections of childhood experiences (before age 18) consistent with the evolved developmental niche. Two questions assess the frequency of *social embeddedness* (doing things together as a family outside the home and inside the home, respectively; $r = .58$). Two questions asked about *self-directed play*: free play outside, and free play inside ($r = .55$). Three additional questions address perceptions of *responsiveness* (happy, supportive, needs met; $\alpha = .93$). *Affectionate touch* (hugs and kisses) and *corporal punishment* (spanking and other forms of negative touch) were each assessed with one item. To measure home climate, questions were included about common feelings experienced, six negative (grief, humiliation, guilt, fear, anger, and numbness) and four positive (joy, expansiveness, self-assurance, and serenity) sets for which means were used to form a *negative home climate* variable ($\alpha = .91$) and a *positive home climate* variable ($\alpha = .88$).

Ethical Orientations

Ethical orientation was assessed according to Triune Ethics Meta-Theory (Narvaez, 2008, 2014) which identifies three evolved, neurobiologically rooted global mindsets that underlie different ethics. We used the Triune Ethics Orientations (TEO; Narvaez & Hardy, 2016). The first orientation, *general safety*, is based on in-born instincts for survival and leads to self-protective actions. The second orientation, *social engagement*, is based on nurtured "mammalian" emotional systems that facilitate face-to-face egalitarian attunement with others. The third orientation, *reflective imagination*, is based on capacities for abstraction from the present moment, allowing for solving problems beyond the concurrent self-in-relation. The Triune Ethics Orientation Measure presents a set of terms for each ethical orientation: For *general safety ethic*, the terms are "controlled, tough, unyielding, and competitive" ($\alpha = .93$); for *engagement ethic*: "caring, compassionate, merciful, and cooperative" ($\alpha = .90$); for *reflective imagination ethic*: "reflective, thoughtful, inventive, and reasonable" ($\alpha = .86$). The respondent is asked to "Please respond to your views of how you are in social situations" in response to a set of terms with four response items (e.g., "Other people I know think I have these characteristics"), using a 5-point Likert-type scale (*1 = Strongly Disagree and 5 = Strongly Agree*). Higher scores indicate a higher affiliation with each ethic.

Interpersonal Capacities

The Interpersonal Reactivity Index (Davis, 1983) was designed to capture differing aspects of empathy. It was used here to capture emotional *empathy* (7-items, e.g., "I often have tender, concerned feelings for people less fortunate than me" $\alpha = .88$), cognitive empathy or *perspective taking* (7-items, e.g., "I sometimes try to understand my friends better by imagining how things look from their perspective;" $\alpha = .87$) and *personal distress* (7-items, e.g., "Being in a tense emotional situation scares me" $\alpha = .87$). All three were rated on a 5-point Likert-type scale (1 = *Does not describe me well, 5 = Describes very well*). Higher scores indicating higher endorsement of each construct.

Results and Discussion

In this study, we tested whether basic needs satisfaction was related to childhood experience (attachment, evolved developmental niche history), interpersonal capacities (empathy, perspective taking, personal distress), as well as ethical orientation according to triune ethics meta-theory (general safety, engagement, reflective imagination).

One question not used in the analyses concerned whether the respondent had been breastfed and 78 (23.2%) said they did not know. Breastfeeding initiation was not significantly related to the two subscales of basic needs (Effectance: $r = -.02$; Discouragement, $r = .02$), nor to perspective taking ($r = -.02$), empathic concern ($r = .01$), general safety ethic ($r = .11$), engagement ethic ($r = .10$), or reflective imagination ethic ($r = .07$), although it was related to personal distress ($r = .16$, $p < .01$). As a result, we did not include this variable in the analyses.

For means and standard deviations, see Table 4.3. Bivariate correlations are presented in Table 4.4.

Table 4.3

Study 1 means, standard deviations, ranges for basic needs effectance and discouragement, precursors, and relational morality

Variable	Mean (SD)	Minimum	Maximum
Life effectance	3.95 (0.64)	1.36	5.00
Life discouragement	2.28 (0.85)	1.00	4.88
Precursors			
Secure attachment	4.41 (2.12)	1.00	7.00
Insecure attachment	3.38 (1.15)	1.00	7.00
Affectionate touch	3.45 (1.13)	1.00	5.00
Corporal punishment	2.69 (1.22)	1.00	5.00
Responsive social environment	3.65 (1.11)	1.00	5.00
Self-directed play	3.77 (0.86)	1.00	5.00
Social embeddedness	2.32 (0.94)	1.00	5.00
Positive home climate	3.12 (0.78)	1.00	6.00
Negative home climate	3.65 (0.76)	1.00	6.00
EDNh composite	3.16 (0.49)	1.42	4.28

Note $N = 336$

Variable	Mean (SD)	Minimum	Maximum
Relational Morality			
Perspective taking	3.68 (0.79)	1.14	5.00
Empathic concern	3.86 (0.76)	1.57	5.00
Personal distress	2.44 (0.84)	1.00	5.00
General safety ethic	2.59 (1.04)	1.00	5.00
Engagement ethic	4.13 (0.66)	1.20	5.00
Reflective imagination ethic	4.10 (0.62)	1.60	5.00
Note N = 336			

Table 4.4

Study 1 correlations among basic needs effectance and discouragement, precursors, and relational morality

Variable	1	2	3	4	5	6	7	8	9
1. Effectance	–								
2. Discouragement	−.73**	–							
Precursors									
3. Secure attachment	.47**	−.41**	–						
4. Insecure attachment	−.33**	.48**	−.55**	–					
5. Affectionate touch	.35**	−.22**	.20**	−.08	–				
6. Corporal punishment	−.05	.11*	−.06	.09	−.22**	–			
7. Responsive social environment	.41**	−.35**	.26**	−.16**	.61**	−.39**	–		
8. Self-directed play	.26**	−.27**	.22**	.12**	.41**	−.15**	.42**	–	
9. Social embeddedness	.21**	−.22**	.12*	−.17**	.40**	−.18**	.48**	.37**	–
10. Negative home climate	−.29**	.40**	−.20**	.26**	−.34**	.47**	−.61**	−.27**	−.25**
11. Positive home climate	.49**	−.41**	.29**	−.20**	.56**	−.31**	.77**	.45**	.40**
12. EDNh composite	.41**	−.39**	.27**	−.21**	.73**	−.59**	.88**	.58**	.62**
Relational Morality									
13. Perspective taking	.33**	.25**	.19**	−.15**	.17**	.02	.14*	.11*	.15**
14. Empathic concern	.20**	−.24**	.21**	−.24**	.19**	−.07	.15**	.20**	.20**
15. Personal distress	−.41**	.49**	−.17**	.24**	−.10	−.08	−.13*	−.09	−.13*

16. General safety ethic	.07**	.03**	−.05**	.23**	−.03	.06	.06	−.03	−.05	

Note $N = 336$. *$p < 0.05$, **$p < 0.01$

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
17. Engagement ethic	.51**	−.32**	.27**	−.14**	.30**	−.03	.24**	.25**	.18**	
18. Imagination ethic	.47**	−.29**	.17**	−.10**	.22**	.01	.16**	.20**	.20**	
19. Social desirability	.11*	−.15**	.14*	−.09	.06	.01	.18**	.04	.10	
Variable	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
1. Effectance										
2. Discouragement										
Precursors										
3. Secure attachment										
4. Insecure attachment										
5. Affectionate touch										
6. Corporal punishment										
7. Responsive social environment										
8. Self-directed play										
9. Social embeddedness										
10. Negative home climate	–									
11. Positive home climate	−.52**	–								
12. EDNh composite	−.70**	.81**	–							
Relational Morality										
13. Perspective taking	−.10	.21**	.17**	–						
14. Empathic concern	−.11	.20**	.22**	.45**	–					
15. Personal distress	.23**	−.19**	−.14**	−.19**	−.06	–				
16. General safety ethic	−.02	.08	<.01	−.11**	−.27**	−.07**	–			
17. Engagement Ethic	−.10	.26**	.27**	.41**	.51**	−.20**	−.19**	–		
18. Imagination ethic	−.04	.27**	.21**	.42**	.34**	−.20**	−.05**	.61**	–	
19. Social desirability	−.15**	.22**	.14**	.08	.02	−.23**	−.01	.14*	.15**	–

Note $N = 336$. *$p < 0.05$, **$p < 0.01$

Correlations among variables were largely in the direction expected, apart from breastfeeding. Scores representing supportive childhood experiences (secure attachment, social embeddedness, affectionate touch, self-directed play, responsiveness, and positive home climate) were positively correlated with Effectance and scores on measures representing change to "measuring" relational morality: empathic concern, perspective taking, and engagement. Supportive childhood experience scores were negatively correlated with Discouragement whereas self-protectionist variables were positively correlated, such as personal distress, an indicator of neurobiological self-concern that can be formed from early undercare or trauma put in parentheses and take out comma before , insecure attachment, and negative home climate. Although Discouragement and the other negative variables were correlated in expected directions with moral variables, corporal punishment was not significantly related to any moral outcome. The only measure that did not follow expectations was general safety ethic—basic needs and childhood experience variables were unrelated. One can argue that this general safety orientation may be a general cultural value these days in the United States (Narvaez, Mattan, MacMichael, & Squillace, 2008).

We also wanted to examine the relationship between early experience and the relational attunement represented by the engagement ethic as mediated by basic needs satisfaction. Mediation analysis was used to test the hypotheses that BNSS would mediate the relationship between the composite score of evolved developmental niche history (EDNh) and engagement ethic orientation. Two models were constructed to test this relationship, one using Effectance and one using Discouragement. Figures 4.1 and 4.2 illustrate the unstandardized coefficients for each model.

Fig. 4.1

Mediation model examining the mediating effect of basic needs effectance in the relation between Evolved Developmental Niche history (EDNh) composite and engagement ethical orientation

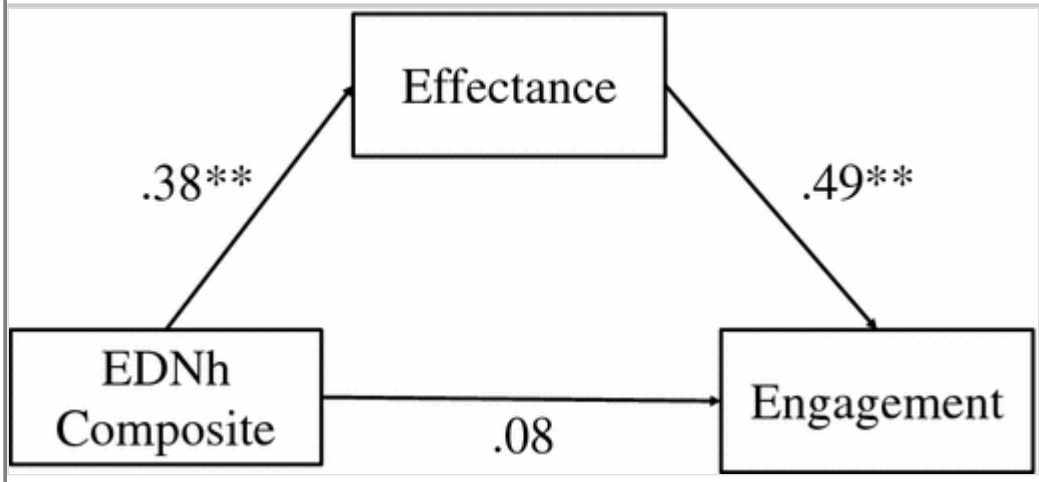
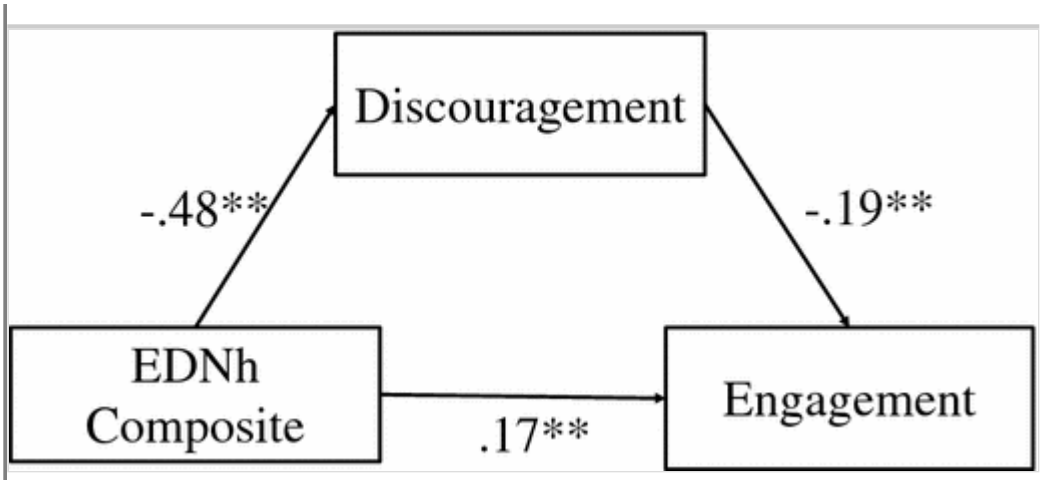


Fig. 4.2

Mediation model examining the mediating effect of basic needs discouragement in the relation between Evolved Developmental Niche history (EDNh) composite and engagement ethical orientation



When testing Effectance as the mediator, there was no significant direct effect of EDNh on engagement ethic, however when testing Discouragement as the mediator, EDNh had a direct effect on engagement ethic ($b = .17$, $p = .005$) Further, although total effects are not necessary for mediation (Hayes, 2009), total effects were significant in both models.

AQ4

The two mediation analyses suggested that Effectance provided a complete mediating effect in the relationship between EDNh and engagement ethic, while Discouragement only provided a partial mediating effect. Since all three variables in each model were manifest variables, the fit indices were saturated in both cases.

We thought basic needs satisfaction might correlate with moral capacities because the latter are theoretically based on well-functioning neurobiology. This first study indicated that ~~that~~ early experience matters for relational moral functioning. But many questions remained unanswered. Also, childhood trauma is predictive of poor adult health (Felitti & Anda, 2005). Does childhood trauma, as measured by Adverse Childhood Experiences, correlate with lack of basic needs satisfaction? And do they both predict moral capacities, including moral behavior, better than basic needs satisfaction and EDN history?

Study 2

Study 1 served as an initial validation of our hypothesis that contemporaneous basic needs satisfaction would be related to retrospective reports of early experience. Because basic needs satisfaction was related to the supportive aspects of childhood and secure attachment and lack of basic needs satisfaction was related to the lack of evolved developmental niche and insecure attachment, we decide to go more deeply into examining the predictors and ramifications of these relationships. Does early experience influence moral personality, moral action, and worldview? Although in study 1 we tested interpersonal moral capacities (empathy, perspective taking, personal distress), we did not examine moral action. Is basic needs satisfaction related to other aspects of moral functioning, such as moral personality? We also wanted to examine whether basic needs satisfaction was related to worldview. Sylvan Tomkins (1965) suggested that early experience shapes one or another of two worldviews, humanistic or normative. He theorized that a welcoming and supportive childhood led to a humanistic posture toward the world (open and accepting toward others) worldview whereas harsh treatment by caregivers (fear of abandonment or humiliation) would lead to a normative worldview (a defended, rejecting posture that accesses feelings of anger and contempt more easily than affiliative feelings).

Method

Participants and General Procedure

A general population sample of 400 adults from the United States was recruited and paid through Amazon Mechanical Turk. Individuals were electronically provided with an explanation of the study, a consent form, and the study measures. All study measures were compiled into a survey that was administered in a single online session using Qualtrics. Those who decided to participate were paid about $4.50 per hour for their completion of the survey, which took on average approximately 40 minutes. The final sample included 374 of the recruited participants (excluding results from those who did not finish the survey, or who spent fewer than 15 minutes answering the questions). For the final sample ($n = 374$; 52.1% male) participants ranged in age from 18 to 81 ($M_{age} = 33.96$, $SD = 11.07$). The racial/ethnic composition of the sample was as follows: 77.8% White, 8.0% African American, 10.4% Asian, 4.8% Hispanic/Latino, 1.6% Native American, 0.3% immigrant, 0.3% other. Yearly income varied substantially (10.2% reported less than $15 K per year, 23.8% reported $15–30 K, 27.5% reported $30–50 K, 19.5% reported $50–75 K, 11.0% reported $75–100 K, and 8.0% reported over $100 K).

Measures

Unless otherwise noted, mean composite scores were computed for analysis.

Childhood Experience Measures

Measures of adverse childhood experiences, attachment style, and early developmental environment were included to measure childhood experience.

Attachment

Attachment style was again assessed using the same measure as in study 1, the Relationships Questionnaire (Bartholomew and Horowitz, 1991), with a single-item for secure attachment a composite item for insecure attachment.

Evolved Developmental Niche

Early developmental environment was again assessed using selected items from The Evolved Developmental Niche History measure (EDNh; Narvaez, Wang, et al., 2016) used in study 1. Reliability estimates for this sample were as follows: "social embeddedness" ($r = .62$), self-directed play ($r = .59$), "responsive social environment" score ($\alpha = .92$), negative home climate ($\alpha = .90$) and positive home climate ($\alpha = .88$).

Adverse Childhood Experiences

Traumatic childhood experiences were measured using the short form of the Adverse Childhood Experiences scale (ACES; Felitti & Anda, 2005). Using one item for each trauma ($\alpha = .80$; *yes* or *no*), ACES measures ten different types of childhood trauma (prior to their 18th birthday): five personal (i.e., physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect) and five related to other family members (i.e., alcoholic parent, mother victim of domestic violence, family member in jail, family member diagnosed with mental illness, and disappearance of parent). One point is added for each trauma experienced, such that the ACE score ranges from 0 (no experience with childhood trauma) to 10 (experience with all traumas mentioned).

Moral Variables

Moral personality and moral action, and ethical orientation were assessed in this study.

Moral Personality

Moral personality was assessed using two measures of socially cooperative personality, forgiveness and honesty, and two measures of uncooperative personality, distrust, and dominance. *Forgiveness* was measured using the Forgiveness subscale of the HEXACO Personality index (Ashton & Lee, 2008). The subscale consists of 10 items ($\alpha = .90$), four of which are positively keyed (e.g., "I love my enemies") and six of which are

negatively keyed (e.g., "I find it hard to forgive others"). We measured *honesty* using the Values in Action scale (Peterson & Seligman, 2004). The scale has nine items ($\alpha = .81$), five positive (e.g., "I am trusted to keep secrets) and four negative (e.g., "I lie to get myself out of trouble"). *Distrust* was measured using items from the Distrust scale from the International Personality Item Pool (IPIP; Goldberg et al., 2006; 8 items, e.g., "I trust others"; 1 = *Strongly Disagree*, 5 = *Strongly Agree*). This scale has eight items ($\alpha = .92$; e.g., "I am wary of others"), three of which are reverse-scored (e.g., "I trust others"). We measured *social dominance* using the Dominance/narcissism subscale of the California Psychological Inventory (also from IPIP; Goldberg et al., 2006). This subscale has 10 items ($\alpha = .87$; e.g., "I impose my will on others"), with one item that is reverse-scored (e.g., "I hate to seem pushy"). All of the measures were scored using a 5-point Likert-type scale (1 = *Strongly Disagree* and 5 = *Strongly Agree*).

Ethical Orientation

Ethical orientation was again assessed with Triune Ethics Orientations (Narvaez & Hardy, 2016; Narvaez, Thiel, Kurth, & Renfus, 2016) but with several additional ethics: *oppositional ethic*: "combative, tough, vigilant, and belligerent" ($\alpha = .92$); *withdrawal ethic*: "submissive, yielding, timid, and unassertive" ($\alpha = .86$); *detached imagination ethic*: "aloof, apathetic, withdrawn, and unemotional" ($\alpha = .90$); *vicious imagination ethic*: "domineering, aggressive, zealous, and pushy" ($\alpha = .92$); and *communal imagination ethic*; "humanitarian, neighborly, inclusive, and broad-minded" ($\alpha = .90$). As in study 1, also used were *general safety ethic* ($\alpha = .93$) and *engagement ethic* ($\alpha = .89$).

Moral Behavior

We assessed moral behavior using two measures. First, we used the *Past Action Report*, a measure based add after "on" Triune Ethics Meta-Theory (Narvaez, Thiel, et al., 2016). Participants rate how often in the past year they have performed particular actions (8-point Likert-type scale, 1 = *Never* and 8 = *Every day*). The list of actions was divided into seven groupings. The first group represents relationally attuned morality: *engaged communal behavior* ($\alpha = .86$; 7 items, e.g., "Gave a helping hand"). The other six groups represent self-protectionist behaviors: *oppositional behavior* ($\alpha = .91$; 10 items, e.g., "Felt justified in yelling at someone"), *vicious (imagination) behavior* ($\alpha = .85$; five items, e.g., "Made a plan to take revenge on someone"), *withdrawal behavior* ($\alpha = .90$; eight items, e.g., "Kept distant from others in a social situation") (*sense of) superiority behavior* ($\alpha = .65$; five items, e.g., "Felt competitive with a rival") (*social) weakness behavior* ($\alpha = .63$; four items, e.g., "Relied on someone else to speak for you"), and *emotionally detached (imagination) behavior* ($\alpha = .71$; seven items, e.g., "Focused on your work and not add after "on" the needs of others").

Second, we measured *public moral action* with the Public Moral Action for the Less Fortunate scale (Narvaez, Brooks, & Mattan, 2011) which asks participants to indicate how often in the past year they have performed certain public actions for the less fortunate (unspecified and undefined; e.g., "I have volunteered at an agency that helps the less fortunate") using an 8-point Likert-type scale (1 = *Never* and 8 = *Every day*; $\alpha = .86$).

Worldview

Worldview was evaluated using a revised version of the Tomkins Polarity Scale (Narvaez & Hardy, 2016). The scale is divided into two subscales: *humanistic* ($\alpha = .75$; 10 items; e.g., "Children must be loved so that they can grow up to be fine adults") and *normative* ($\alpha = .80$; 14 items; e.g., "Human beings should be loved only if they have acted so that they deserve to be loved"). Items are scored using a 5-point Likert-type scale (1 = *Strongly Disagree* and 5 = *Strongly Agree*).

Results and Discussion

In this study we probed more deeply into moral functioning and its predictors, examining in particular the role of basic needs satisfaction. Two variables were left out of tables and analyses, breastfeeding and ACEs. We asked participants whether they were breastfed and 90 (24.1%) said they did not know. Breastfeeding experience was not significantly related to any variables; correlations were nonsignificant and ranged from −.003 to .06. As a

result, we did not include this variable in the analyses. Second, ACEs was not significantly correlated with moral outcomes (correlations ranged from −.08 to .06) except for three variables: distrust ($r = .15$, $p = .003$), withdrawal behavior ($r = .18$, $p = .000$) and emotionally detached behavior ($r = .13$, $p < .01$). Both variables were not examined further.

For means and standard deviations of positive variables, see Table 4.5. For means and standard deviations of negative variables, see Table 4.6. Bivariate correlations are presented in Tables 4.5 and 4.6.

Table 4.5

Study 2 means, standard deviations, ranges for basic needs effectance and discouragement, positive precursors, and relational morality

Variable	Mean (SD)	Minimum	Maximum
~~Life~~ effectance capitalize	3.88 (0.65)	1.45	5.00
~~Life~~ discouragement capitalize	2.18 (0.88)	1.00	5.00
Precursors Should be "Positive Precursors"			
Secure attachment	4.50 (2.12)	1.00	7.00
Social embeddedness	3.62 (0.95)	1.00	5.00
Self-directed play	3.17 (0.69)	1.00	5.00
Responsive social environment	3.60 (1.07)	1.00	5.00
Affectionate touch	3.24 (1.17)	1.00	5.00
Corporal punishment	2.60 (1.13)	1.00	5.00
Positive home climate	4.06 (1.12)	1.00	6.00
EDNh composite	4.16 (0.48)	1.82	4.16
Relational moralit capitalize *y*			
Humanistic worldview	3.96 (0.51)	1.70	5.00
Honesty	4.12 (0.57)	2.11	5.00
Forgiveness	3.50 (0.85)	1.00	5.00
Communal imagination ethic	3.76 (0.83)	1.00	5.00
Engagement ethic	4.19 (1.25)	1.00	7.50
Engaged communal behavior	2.52 (1.22)	1.00	7.00
Public moral action for the less fortunate	3.67 (0.66)	1.70	5.00
Note $N = 367$. *$p < 0.05$, **$p < 0.01$			

Table 4.6

Study 2 means, standard deviations, ranges for basic needs effectance and discouragement, negative precursors, and self-protective morality

Variable	Mean (SD)	Minimum	Maximum
~~Life~~ effectance capitalize	3.88 (0.65)	1.45	5.00
~~Life~~ discouragement capitalize	2.18 (0.88)	1.00	5.00
Precursors Should be "Negative Precursors"			
Insecure attachment	3.34 (1.44)	1.00	6.50
Adverse childhood experiences	0.18 (0.23)	0.00	0.90
Corporal punishment	2.60 (1.13)	1.00	5.00
Negative home climate	2.80 (0.99)	1.00	6.00
Self-Protective morality capitalize			
Normativism worldview	2.41 (0.56)	1.07	3.93
Dominance	2.47 (0.74)	1.00	5.00
Distrust	2.65 (0.86)	1.00	4.88
Oppositional ethic	1.91 (0.96)	1.00	5.00
Withdrawing ethic	1.96 (0.90)	1.00	4.75
General safety ethic	2.59 (1.09)	1.00	5.00
Vicious imagination ethic	1.58 (0.77)	1.00	5.00
Detached imagination ethic	1.80 (0.87)	1.00	4.75
Oppositional behavior	1.77 (0.99)	1.00	6.20
Vicious behavior	1.63 (1.00)	1.00	6.60
Withdrawal behavior	3.47 (1.67)	1.00	8.00
Superiority behavior	2.87 (1.26)	1.00	7.00
Weakness behavior	2.90 (1.30)	1.00	7.00
Detached behavior	3.35 (1.30)	1.00	7.43
Note $N = 367$. $*p < 0.05$, $**p < 0.01$			

Were Supportive Childhood Experiences Correlated with Relational Morality?

In Chapter 3 , we presented data showing that supportive childhood experiences consistent with reported EDNh correlated with the satisfaction of basic psychosocial needs in childhood. Here we tested EDNh but also attachment. Secure attachment was positively correlated with all moral outcomes, with the exception of Public

Moral Action for the Less Fortunate. EDNh variables largely showed positive relations with ethical orientation, personality and behavior, suggesting that provision of supportive childhood basic needs contributes to moral outcomes. However, there were exceptions. EDNh affectionate touch was not related to Engagement or Public Moral Action for the Less Fortunate. The other EDNh variables were not correlated with Engaged Communal Behavior and Public Moral Action for the Less Fortunate, suggesting other factors may be involved in shaping these behaviors. In a sample of 295 adults, Narvaez, Thiel, et al. (2016) found that Public Action for the Less Fortunate scores were significantly positively correlated with reported opposition behavior (.19), social weakness behavior (.17), and vicious behavior (.27) as well engaged communal behavior (.63). So, helping others is not confined to those who are more communally focused, but can be moral behavior that emerges from different moral orientations.

Were Unsupportive Childhood Experiences Related to Self-Protective Moral Outcomes?

We examined the relation between unsupportive early experiences and self-protective moral outcomes. Insecure attachment was positively correlated with all self-protective moral outcomes. Similar to Narvaez, Thiel, et al. (2016), corporal punishment was related to self-protective variables including distrust, oppositional ethic, detached imagination ethic, and all of the self-protective behavior variables and negative home climate was related to distrust, withdrawal ethic, vicious and detached imagination ethics, and all self-protective behavior except vicious behavior. These relations suggest that a perception of childhood basic needs dissatisfaction contributes to self-protective moral action.

Was Basic Needs Satisfaction Related to Supportive Childhood Experience and Relational Morality?

As shown in Table 4.7, Effectance was significantly related to all measures of supportive childhood experience, similar to the studies in Chapter fix period 3 . Effectance was also related to all moral outcomes variables, was most strongly related to honesty ($r = .50$, $p < .01$), except Public Moral Action for the Less Fortunate. Discouragement was significantly negatively related to all supportive childhood experience and moral variables: the strongest correlation was with honesty ($r = -.51$ $p < .01$), and the weakest were with engaged communal behavior ($r = -.11$, $p < .05$) and Public Moral Action for the Less Fortunate ($r = -.11$, $p < .05$).

Table 4.7

Study 2 correlations among effectance and discouragement, positive precursors, and relational morality

Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1. Effectance	–						
2. Discouragement	−.73**	–					
Precursor should be "Positive Precursors" *s*							
3. Secure attachment	.38**	−.41**	–				
4. Social embeddedness	.20**	−.21**	.12*	–			

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. Self-directed play	.20**	−.14**	.18**	.31**	–		
6. Responsive social environment	.29**	−.29**	.30**	.43**	.34**	–	
7. Affectionate touch	.21**	−.22**	.26**	.42**	.31**	.63**	–

8. Positive home climate	.38**	−.32**	.37**	.43**	.392**	.75**	.54**	
9. EDNh composite	.33**	−.34**	.33**	.63**	.53**	.88**	.85**	
Relational morality								
10. Humanistic worldview	.42**	−.30**	.23**	.17**	.16**	.16**	.18**	
11. Honesty	.50**	−.51**	.30**	.17**	.19**	.21**	.17**	
12. Forgiveness	.32**	−.37**	.29**	.16**	.17**	.17**	.21**	
13. Communal imagination ethic	.38**	−.32**	.34**	.14**	.08	.20**	.19**	
13. Engagement ethic	.35**	−.29**	.41**	.14**	.15**	.25**	.22**	
15. Engaged communal behavior	.17**	−.11*	.13*	.09	.14**	−.04	.09	
16. Public moral action for the less fortunate	.10**	−.11**	.06**	.06	.01	−.06**	.04**	

Construct	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1. Effectance								
2. Discouragement								
Precursors should be "Positive Precursors"								
3. Secure attachment								
4. Social embeddedness								
5. Self-directed play								
6. Responsive social environment								
7. Affectionate touch								
8. Positive home climate	–							
9. EDNh composite	.81**	–						
Relational morality								
10. Humanistic worldview	.24**	.21**	–					
11. Honesty	.26**	.27**	.39**	–				
12. Forgiveness	.17**	.23**	.43**	.39**	–			
13. Communal imagination ethic	.24**	.23**	.35**	.37**	.38**	–		

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**	
13. Engagement ethic	.24**	.26**	.44**	.38**	.55**	.55**	–	
15. Engaged communal behavior	.04	.04	.29**	.11*	.25**	.32**	.40**	–
16. Public moral action for the less fortunate	−.06	−.01	.11**	.02**	.19**	.26**	.21**	.55**

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

Was Basic Needs Satisfaction Related to Negative Childhood Experience and Self-Protective Moral Outcomes?

As shown in Table 4.8, Effectance was negatively related to all measures of unsupportive childhood experience, similar to the studies in Chapter fix period 3 . Further, Effectance was negatively related to all self-protective moral outcomes variables, except general safety ethic. Effectance was most strongly negatively related to withdrawal behavior, $r = -.46$, $p < .01$. Similarly, except for general safety ethic, Discouragement was significantly positively related to all unsupportive childhood experiences, as found in the Chapter 3 studies. Discouragement was correlated with self-protective moral variables with its strongest correlate withdrawal behavior ($r = .61$, $p < .01$).

Table 4.8

Study 2 correlations among effectance and discouragement, negative precursors, and self-protective morality

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Effectance	–								
2. Discouragement	−.73**	–							
Precursors Should be "Negative Precursors"									
3. Insecure attachment	−.30**	.40**	–						
4. Adverse childhood experiences	−.16**	.19**	.14**	–					
5. Corporal punishment	−.14**	.19**	.17**	.43**	–				
6. Negative home climate	−.24**	.30**	.19**	.63**	.47**	–			
Self-protective morality									
7. Normativism worldview	−.21**	.26**	.23**	−.10	.03	−.04	–		
8. Dominance	−.06**	.22**	.18**	−.02**	.08**	.07	.49**	–	
9. Distrust	−.37**	.48**	.31**	.15**	.19**	.26**	.51**	.31**	–
10. Opposition ethic	−.14**	.17**	.16**	−.04**	.02**	−.03	.40**	.46**	.26**
11. Withdrawal ethic	−.27**	.32**	.20**	−.01	.08	.13*	.08**	−.18**	.12*
12. General safety ethic	.04**	.08**	.14**	−.10**	.03**	−.05	.43**	.51**	.21**

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
13. Vicious imagination ethic	−.24**	.26**	.19**	.04	.05	.11*	.40**	.55**	.26**
14. Detached imagination ethic	−.40**	.47**	.32**	.16**	.10**	.28**	.30**	.29**	.39**
15. Oppositional behavior	−.24**	.42**	.26**	.04	.18**	.15**	.44**	.50**	.25**

15. Oppositional behavior	−.34**	.42**	.26**	.04	.18**	.15**	.44**	.50**	.35**	
16. Vicious behavior	−.29**	.35**	.24**	−.02**	.12**	.07	.45**	.48**	.30**	
17. Withdrawal behavior	−.46**	.61**	.49**	.19**	.22**	.33**	.13*	.15**	.40**	
18. Superiority behavior	−.15**	.31**	.31**	−.04**	.12**	.13*	.41**	.55**	.35**	
19. Weakness behavior	−.29**	.39**	.34**	.00	.10*	.14**	.18**	.20**	.26**	
20. Detached behavior	−.32**	.45**	.42**	.13**	.18**	.27**	.30**	.38**	.41**	
Variable	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
1. Effectance										
2. Discouragement										
Precursors Should be "Negative Precursors"										
3. Insecure attachment										
4. Adverse childhood experiences										
5. Corporal punishment										
6. Negative home climate										
Self-protective morality										
7. Normativism worldview										
8. Dominance										
9. Distrust										
10. Opposition ethic	–									
11. Withdrawal Ethic	.03*	–								
12. General safety ethic	.41**	−.17**	–							
13. Vicious imagination ethic	.49**	.01	.37**	–						
14. Detached imagination ethic	.33**	.26**	.19**	.41**	–					
15. Oppositional behavior	.34**	.10	.33**	.40**	.28**	–				
16. Vicious behavior	.34**	.13**	.36**	.38**	.26**	.84**	–			

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
17. Withdrawal behavior	.13**	.34**	.09	.11*	.42**	.37**	.36**	–		
18. Superiority behavior	.35**	.07**	.40**	.29**	.28**	.61**	.62**	.47**	–	
19. Weakness behavior	.18**	.27**	.13*	.09	.25**	.45**	.48**	.69**	.57**	–

20. Detached behavior	.29**	.16**	.26**	.24**	.48**	.47**	.45**	.73**	.58**	.63**

Note N = 367. *$p < 0.05$, **$p < 0.01$

Hierarchical Regressions

To determine the extent to which BNSS scales contributed significantly to the explained variance in moral outcomes, beyond what was explained via childhood experience and attachment, several hierarchical regressions were performed. We conducted the regressions on the variables with the highest sets of correlations, which on the relational side were honesty, forgiveness, engagement, communal imagination; and on the self-protective side, distrust, oppositional behavior, and withdrawal behavior. For each regression, we used the same sets of predictors. Model 1 predictors were EDNh variables: positive home climate, negative home climate, affectionate touch, and corporal punishment. Model 2 added secure and insecure attachment scores. Model 3 added the BNSS subscales, Effectance and Discouragement.

In the regression on *Honesty*, although positive home climate and insecure attachment had been predictive in the two earlier models (7 and 14%, respectively), when adding BNSS scales to the analysis~~. See Table 4.9.~~ Effectance and Discouragement made a significant contribution to explained variance (30%), consuming all of the variance, making all other variables become nonsignificant. Honesty represents conscientiousness. In Add before: "See Table 4.9." longitudinal studies, Grazyna Kochanska finds that a supportive relationship with mother ("mutually responsive orientation) facilitates the development of conscience and cooperation (Kochanska 2002a, 2002b). Studies have found that as early as 2½ years of age, children begin tell lies as a self-protection mechanism (Newton, Reddy, & Bull, 2000). In one set of studies, older 4–8-year old children were more likely to tell the truth when experimenters gave an appeal to tell the truth, especially when there was no punishment mentioned whereas if punishment was mentioned, children were more motivated by social approval than by abiding by an internal standard of behavior (Talwar, Arruda, & Yachison, 2015). Some have found that positive parenting decreases adolescent lying (Darling, Cumsille, Caldwell, & Dowdy, 2006; Jensen, Arnett, Feldman, & Cauffman, 2004), specifically autonomy support and lack of controlling parenting (Bureau & Mageau, 2014). Thus, honesty has a strong relational support component, whose absence undermines the presence of honesty.

Table 4.9

Hierarchical regressions predicting honesty

Honesty						
Model	***b***	**SE**	***β***	**R^2 (adjusted)**	**R^2 change**	***F*** ~~**change**~~
Model 1				.08 (.07)	~~.08~~	6.24**
Negative home climate	−.08	.04	−.13			
Positive home climate	.10	.04	.20*			
Responsive social environment	−.04	.05	−.08			
Corporal punishment	−.02	.03	−.03			
Affectionate touch	.03	.03	.06			
Model 2				.15 (.14)	.08	16.33**

Note N = 367. *$p < 0.05$, **$p < 0.01$

Honesty						
Model	***b***	**SE**	***β***	***R*** **(adjusted)**	***R*** **change**	***F*** ~~**change**~~
Negative home climate	−.06	.04	−.11			
Positive home climate	.07	.04	.13			
Responsive social environment	−.03	.05	−.05			
Corporal punishment	<.01	.03	−.01			
Affectionate touch	.01	.03	.03			
Secure attachment	.03	.02	.11			
Insecure attachment	−.11	.03	−.22**			
Model 3				.32 (.30)	.16	42.74**
Negative home climate	−04	.04	−.07			
Positive home climate	.01	.04	.02			
Responsive social environment	−.02	.05	−.04			
Corporal punishment	<.01	.03	<.01			
Affectionate touch	.01	.03	.02			
Secure attachment	<.01	.02	<.01			
Insecure attachment	−.07	.03	−.13*			
Effectance	.02	.01	.28**			
Discouragement	−.02	.01	−.23**			
Note $N = 367$. *$p < 0.05$, **$p < 0.01$						

In the regression on *Forgiveness*, the second model explained 10% of the variance with affectionate touch and secure attachment significant predictors. In the third model, lack of Discouragement showed additional significant explanation of variance (16% total). See Table 4.10. It is hard to forgive when does not feel safe or well, whereas in early life affectionate touch fosters secure attachment and the latter helps one feel safe in the social world over the long term (barring later trauma). Forgiveness behavior has been negatively correlated with anxiety and depression (Hebl & Enright, 1993; Subkoviak, Enright, Wu, & Gassin, 1995), and positively correlated with life satisfaction (Hargrave & Sells, 1997; Poloma & Gallup, 1991) and mental health (Mauger, Perry, Freeman, & Grove, 1992). Early experience contributes to mental health, both of which appear to triangulate with forgiveness behavior. Melanie Klein, in object relations psychoanalytic theory, implied that for psychic health one must repair normal mistaken notions about caregivers developed in infancy, a type of forgiveness (Karen, 2001; Klein & Strachey, 1997).

Table 4.10

Hierarchical regressions predicting forgiveness

Forgiveness

Forgiveness **Model**	***b***	**SE**	***β***	R^2 **(adjusted)**	R^2 **change**	***F*** ~~**change**~~
Model	***b***	**SE**	***β***	***R*** **(adjusted)**	***R*** **change**	***F*** ~~**change**~~
Model 1				.06 (.04)	~~.06~~	4.26**
Negative home climate	−.03	.06	−.04			
Positive home climate	.05	.06	.07			
Responsive social environment	−.04	.08	−.05			
Corporal punishment	−.05	.04	−.06			
Affectionate touch	.13	.05	.19**			
Model 2				.12 (.10)	.06	13.07**
Negative home climate	−.01	.06	−.02			
Positive home climate	−.01	.06	−.01			
Responsive social environment	−.02	.08	−.03			
Corporal punishment	−.04	.04	−.05			
Affectionate touch	.11	.05	.15*			
Secure attachment	.08	.03	.20**			
Insecure attachment	−.08	.04	−.11			
Model 3				.18 (.16)	.07	14.56**
Negative home climate	.02	.06	.02			
Positive home climate	−.05	.06	−.07			
Responsive social environment	−.01	.07	−.02			
Corporal punishment	−.03	.04	−.04			
Affectionate touch	.11	.05	.15*			
Secure attachment	.05	.02	.14*			
Insecure attachment	−.03	.04	−.04			
Effectance	.01	.01	.08			
Discouragement	−.03	.01	−.23**			

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

The third hierarchical regression on positive moral outcomes predicted *Communal Imagination Ethic*. See Table 4.11. Although in Model 1, positive childhood climate was significantly predictive, explaining 5% of the variance, in Model 2, secure attachment was the only significant variable, explaining 12% of the variance. When Effectance and Discouragement were added, the variance explained increased to 17%. Again, supporting triune ethics meta-theory, a sense of "social security" in childhood—through a supportive, positive home climate that

fosters secure attachment—establishes neurobiological systems that function well, allowing one to use higher order capacities for cooperative ends (communal imagination) rather than self-protectionism.

Table 4.11

Hierarchical regressions predicting communal imagination

Communal imagination						
Model	***b***	**SE**	***β***	**R^2 (adjusted)**	**R^2 change**	***F* ~~change~~**
Model 1				.06 (.05)	~~.06~~	5.02**
Negative home climate	.02	.06	.02			
Positive home climate	.15	.06	.20*			
Responsive social environment	<.01	.08	<.01			
Corporal punishment	−.03	.04	−.04			
Affectionate touch	.06	.05	.09			
Model 2				.14 (.12)	.07	15.13**
Negative home climate	.04	.06	.05			
Positive home climate	.08	.06	.11			
Responsive social environment	.02	.07	.02			
Corporal punishment	−.02	.04	−.03			
Affectionate touch	.04	.05	.05			
Secure attachment	.10	.02	.27**			
Insecure attachment	−.03	.04	−.04			
Model 3				.19 (.17)	.06	13.33**
Negative home climate	.05	.06	.06			
Positive home climate	.02	.06	.03			
Responsive social environment	.03	.07	.03			
Corporal punishment	−.02	.04	−.03			
Affectionate touch	.04	.05	.05			
Secure attachment	.08	.02	.21**			
Insecure attachment	<.01	.04	−.01			
Effectance	.03	.01	.26**			
Discouragement	<.01	.01	−.02			
Note $N = 367$. *$p < 0.05$, **$p < 0.01$						

Next, hierarchical regressions were performed on self-protectionist moral outcomes: distrust, oppositional behavior and withdrawal behavior. First, we tested the same predictors indicated above with *Distrust*. See Table 4.12. Affectionate touch was a positive predictor in model 1 (*adjR2* = .09), whereas in model 2, attachment became the sole significant predictor (16%). When BNSS variables were added in model 3, only Discouragement remained as a significant predictor, explaining 26% of the variance. These findings align with neurobiological research showing that warm, affectionate touch helps infants development secure attachment (Ainsworth, Blehar, Waters, & Wall, 1978; Bates, Maslin, & Frankel, 1985; Leyendecker, Lamb, Fracasso, Schölmerich, & Larson, 1997; O'Connor, Sigman, & Kasari, 1992), especially when this touch is synchronized to the infant's cues (Feldman & Eidelman, 2004). Affectionate touch fosters the development of the oxytocin system which facilitates sense of trust in others (Carter, 2003; Feldman, Gordon, & Zagoory-Sharon, 2010; Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005). The lack of affectionate touch undermines the development of secure attachment and can lead to discouragement.

Table 4.12

Hierarchical regressions predicting distrust

Distrust						
Model	***b***	**SE**	***β***	**R^2 (adjusted)**	**R^2 change**	***F* ~~change~~**
Model 1				.10 (.09)	.~~10~~	8.35**
Negative home climate	.10	.06	.12			
Positive home climate	−.07	.06	−.09			
Responsive social environment	<.01	.08	<.01			
Corporal punishment	.06	.04	.08			
Affectionate touch	−.10	.05	−.14*			
Model 2				.17 (.16)	.07	15.49**
Negative home climate	.08	.06	.10			
Positive home climate	−.01	.06	−.01			
Responsive social environment	−.02	.08	−.03			
Corporal punishment	.04	.04	.06			
Affectionate touch	−.08	.05	−.11			
Secure attachment	−.06	.02	−.15*			
Insecure attachment	.13	.04	.17**			
Model 3				.27 (.26)	.10	25.36**
Negative home climate	.04	.06	.05			
Positive home climate	.03	.06	.04			

Note $N = 367$. *$p < 0.05$, **$p < 0.01$

Distrust						
Model	***b***	**SE**	***β***	***R* (adjusted)**	***R* change**	***F* ~~change~~**
Responsive social environment	−.03	.07	−.04			
Corporal punishment	.04	.04	.05			
Affectionate touch	−.07	.04	−.10			
Secure attachment	−.03	.02	−.08			
Insecure attachment	.06	.04	.08			
Effectance	<.01	.01	−.03			
Discouragement	.04	.01	.35**			
Note N = 367. *$p < 0.05$, **$p < 0.01$						

Next, we used *Oppositional Behavior* as the dependent variable (see Table 4.13). In Model 1, corporal punishment was positively and affectionate touch negatively predictive, accounting for 7% of the variance. In Model 2, insecure attachment also added to the variance explained (9%). When adding the two basic needs variables in Model 3, all three variables remained significant with Discouragement adding a great deal more explanation of the variance (20%). As noted earlier, considerable evidence indicates that corporal punishment fosters aggressive behavior (Gershoff, 2013). And, according to triune ethics meta-theory, without affection and the development of secure attachment, the individual may not develop the prosocial inclinations and skills that otherwise form within an evolved developmental niche.

Table 4.13

Hierarchical regressions predicting oppositional behavior

Oppositional behavior						
Model	***b***	**SE**	***β***	**R^2 (adjusted)**	**R^2 change**	***F* ~~change~~**
Model 1				.06 (.05)	~~.06~~	4.88**
Negative home climate	.07	.07	.07			
Positive home climate	<.01	.07	<.01			
Responsive social environment	.08	.09	.09			
Corporal punishment	.13	.05	.14*			
Affectionate touch	−.17	.06	−.20**			
Model 2				.11 (.09)	.04	8.79**
Negative home climate	.06	.07	.06			
Positive home climate	.03	.07	.04			
Note N = 367. *$p < 0.05$, **$p < 0.01$						

Oppositional behavior						
Model	***b***	**SE**	***β***	***R*** **(adjusted)**	***R*** **change**	***F*** ~~**change**~~
Responsive social environment	.07	.09	.07			
Corporal punishment	.11	.05	.12*			
Affectionate touch	−.15	.06	−.17**			
Secure attachment	−.01	.03	−.02			
Insecure attachment	.18	.05	.21**			
Model 3				.22 (.20)	.11	25.75**
Negative home climate	.01	.07	.01			
Positive home climate	.10	.07	.11			
Responsive social environment	.05	.09	.06			
Corporal punishment	.10	.05	.12*			
Affectionate touch	−.14	.05	−.16**			
Secure attachment	.03	.03	.06			
Insecure attachment	.10	.05	.12*			
Effectance	−.02	.01	−.12			
Discouragement	.04	.01	.30**			
Note N = 367. *$p < 0.05$, **$p < 0.01$						

Last, we tested the same variables to predict *Withdrawal Behavior* (See Table 4.14). In Model 1, negative home climate was a significant predictor, accounting for 11% of the variance. In Model 2, negative home climate continued to be significantly predictive along with secure attachment negatively and insecure attachment positively predicting withdrawal behavior with the model explaining 34% of the variance. When adding the basic needs variables in Model 3, the amount of variance explained increased to 49% with the same variables remaining significant and Discouragement adding to the variance explained. Interestingly, positive home climate also became predictive even though it had been negatively correlated with withdrawal behavior. Social withdrawal or dissociation is a common outcome for traumatized and psychically disturbed individuals in therapy and is fostered by basic needs being thwarted in early life (Schore, 2003b, 2013).

Table 4.14

Hierarchical regressions predicting withdrawal behavior

Withdrawal behavior						
Model	***b***	**SE**	***β***	R^2 **(adjusted)**	R^2 **change**	***F*** ~~**change**~~
Model 1				.12 (.11)	~~.12~~	10.07**
Note N = 367. *$p < 0.05$, **$p < 0.01$						

Withdrawal behavior						
Model	***b***	**SE**	***β***	***R*** **(adjusted)**	***R*** **change**	***F*** ~~**change**~~
Negative home climate	.55	.12	.32**			
Positive home climate	−.09	.11	−.06			
Responsive social environment	.17	.15	.11			
Corporal punishment	.13	.08	.09			
Affectionate touch	−.04	.09	−.03			
Model 2				.35 (.34)	.23	64.03**
Negative home climate	.47	.11	.28**			
Positive home climate	.12	.10	.08			
Responsive social environment	.09	.13	.06			
Corporal punishment	.08	.07	.05			
Affectionate touch	.05	.08	.03			
Secure attachment	−.22	.04	−.27**			
Insecure attachment	.45	.08	.31**			
Model 3				.50 (.49)	.15	54.17**
Negative home climate	.37	.09	.22**			
Positive home climate	.22	.09	.14*			
Responsive social environment	.07	.11	.04			
Corporal punishment	.07	.06	.05			
Affectionate touch	.07	.07	.05			
Secure attachment	−.15	.04	−.18**			
Insecure attachment	.29	.07	.20**			
Effectance	−.01	.01	−04			
Discouragement	.10	.01	.42**			
Note $N = 367$. *$p < 0.05$, **$p < 0.01$						

The dependent variables for the regressions represented dispositional traits and recent past behavior. In the hierarchical regressions, the most impactful variables of the EDNh were the positive and negative climate variables and the touch variables. The climate variables represent the marinade of emotion the individual recalls experiencing which would play a role in shaping dispositions, which the predictor variables represent. The only variable for which negative home climate remained a significant predictor throughout the models was withdrawal (emotionally disengaged behavior). Emotional disengagement behavior in a negative home climate might be functionally adaptive. Touch variables have known effects. For example, affection fosters well-

functioning neurobiology (e.g., oxytocin system), increasing a sense of calm and wellbeing (Carter, 2003; Feldman, 2012) whereas corporal punishment has known longitudinal effects on aggressive behavior (Gershoff, 2013; Gershoff, Lansford, Sexton, Davis-Kean, & Sameroff, 2012). Lack of affectionate touch was significant in models for oppositional and emotionally detached behavior. At least one attachment variable explained a significant amount of variance in every model, sometimes both. Attachment preference is a signal of social functioning capacities.

In most models, the basic needs variables contributed significantly to the explanation of the moral variables beyond what was explained by childhood experience and attachment orientation. One or the other (or both) basic needs variables explained a significant amount of variance in each final model, suggesting their usefulness as two subscales, instead of a single scale. Sometimes it was a lack of discouragement that was predictive, as for forgiveness. All the negative dependent variables were predicted by Discouragement whereas with the positive variables, Effectance was predictive for honesty and communal imagination behavior.

Overall, the fact that contemporaneous basic needs satisfaction contributed to predicting moral functioning reports for both positive (honesty, forgiveness, communal imagination behavior) and negative variables (distrust, oppositional behavior, detached behavior) suggests that even though childhood-related variables appear to have significant predictive power, today's lived experience does too. But the legacy of childhood experience in basic needs satisfaction contemporaneously needs to be sorted out. That is, how much of basic needs satisfaction today has to do with what happened in childhood when neurobiological structures and personality dispositions were being established? And how much of that early shaping can be changed in adulthood? Teasing out the early effects from the later effects is challenging. For example, frequent hugs with partners lower blood pressure and heart rate in premenopausal women with higher oxytocin levels, suggesting both an early effect (basal oxytocin) and a contemporary effect (hugs) on health variables (Light, Grewen, & Amico, 2005). Of course, longitudinal studies from birth would be ideal but hard to fund, mount and maintain.

General Discussion

Our goal was to examine how basic needs satisfaction is related to moral capacities and functioning. In two studies, we examined the added power of basic needs satisfaction to predicting moral functioning. With respect to moral outcomes, Effectance correlated positively with perspective taking, empathic concern, and compassionate morality (engagement) and negatively with personal distress and safety ethic. Additionally, Effectance predicted moral behaviors including engaged communal actions. Discouragement, on the other hand, correlated positively with personal distress, safety ethic, and vicious and detached imagination and predicted self-protective behaviors including actions reflecting viciousness, withdrawal, superiority, weakness, detachment, and oppositional behavior.

In terms of fostering relational moral behavior, focusing on basic needs satisfaction is more aligned with virtue theory. Other theories tend to emphasize reasoning (the deontology of Kohlberg's theory, or utilitarianism). In a virtue theoretical worldview, morality or virtue is not learned from books or observation alone but through immersed experience or apprenticeship, with a guide on the side. And the learning of moral virtues starts with our neurobiology. Truly, we are biosocial *becomings* because we are always in a state of growth and change—our sociality is shaped by our biological experiences in early life and the functioning of our biology influences our social functioning (Ingold, 2013). However, after early childhood, individuals can shape themselves by the activities they choose and by where they put their attention (Narvaez, 2014).

Limitations and Future Directions

These two studies have several limitations. The basic needs satisfaction measure needs further development. Reports of childhood experience were retrospective, not prospective, and the data were collected cross-sectionally. Additionally, all measurements were self-reported, which can be subject to inflated views of the self, particularly regarding socially desirable traits such as moral personality. Last, without experimental data, no

claims of causation can be made. Future studies would benefit from following a prospective design by studying participants longitudinally from childhood and using observational techniques to reduce self-report bias.

Conclusion

Assessment of basic psychosocial needs satisfaction may provide helpful insights into the understanding of moral orientation, especially when childhood experiences are considered. In the next chapter, we pull the ideas together and discuss Maslow's view of the ultimate goal of humanity.

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[1] Elsewhere the first author points out how Darwin's list of moral sense components seems to be diminishing in the USA (Narvaez, 2016).
[2] "Ethical" and "moral" are used interchangeably here.