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When can parents most influence their child's development? Expert knowledge and perceived local realities

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Abstract

Compelling evidence for the long-term impact of conditions in gestation and early childhood on both physical and psychosocial functioning and productivity has stimulated a focus in global health policy and social services on the “first 1000 days”. Consequently, related initiatives may assume that rationale for this orientation and the agency of parents during this period is self-evident and widely shared among parents and communities. We tested this assumption in 2012 among a sample of 38 township-dwelling caregivers in Cape Town, by asking a question identified during a study of cultural models of parenting, namely: At what age or stage can a parent or caregiver have the most influence on a child's development? Formal cultural consensus analysis of responses met criteria for strong agreement that the period for greatest impact of parenting on a child's development occurs at adolescence, at a median age of 12 years. In follow-up focus groups and structured interviews, caregivers articulated clear ecological and developmental reasons for this view, related to protection both of developmental potential and against powerful, context-specific ecological risks (early pregnancy, substance ab/use, violence and gangs) that emerge during adolescence. Such risks threaten educational attainment, reproductive health, and social derailment with enduring consequences for lifetime well-being that caregivers are highly motivated to prevent. Developmental needs in pregnancy and early childhood, by contrast, were considered more manageable. These findings resonate with emerging evidence for multiple sensitive periods with corresponding developmental needs, and urge the value of complementing efforts to optimize early development with those to sustain and enhance it during later windows of developmental opportunity such as adolescence. Our results also indicate the need to consult local views of developmental risk and parenting practice in communicating with caregivers and planning interventions, and the value of using available methodological tools to do so.

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Keywords

First 1000 days; biological embedding; early child development; adolescence; ethnopediatrics; South Africa; parenting; family programs

Introduction

A tremendous body of work recently has emerged that documents the reliance of development on interactions between person and context (Shonkoff et al., 2009; Worthman et al., 2010). Findings from humans and other animals systematically have elucidated processes of biological embedding whereby the material and social conditions under which development occurs are embodied in structural and functional outcomes. These effects appear to be particularly pronounced during fetal and early postnatal development, when systems architecture, organization, and regulation are being established (Hanson and Gluckman, 2014). Although environmental cues provide a major source of information to guide development, and capturing these cues is both essential and adaptive, such reliance opens a window of potential vulnerability when harsh early conditions trigger developmental trade-offs or direct impairments with subsequent cumulative long-term costs to function and well-being (Hanson and Gluckman; Hochberg et al., 2011). Hence, early exposures to adversity—both physical (such as crowding, poverty) and psychosocial (such as neglect or abuse, parental harshness or conflict) have been linked to later mental and physical health risk (Ferguson et al., 2013; Grant et al., 2014; Miller et al., 2011). Developmental neuroscience has found that the brain is sensitive not only to nutrition but also to pattern and quality of early experience (Fox et al.; Petrosini et al., 2009). Under conditions of disadvantage and low SES or toxic stress, such sensitivities translate into effects known to blunt executive function (working memory, attentional and inhibitory control) (Hackman et al., 2010), impair emotion regulation (Rothbart et al., 2011), and exacerbate vulnerabilities to stress (De Bellis and Zisk, 2014). Consequently, in addition to their effects on health, early conditions of poverty, adversity, and disadvantage also undercut school performance and lifetime earnings.

These recent scientific advances not only have recharged models of human development and elided nature-nurture distinctions, but also have galvanized public health priorities and policy with the understanding of how adversity and disadvantage lead to health disparities, reinforce socioeconomic inequalities, and exact personal and societal costs (Boyce, 2015; Shonkoff et al., 2009). Such insights converge with the established developmental and long-term health effects of early malnutrition that drive global policy (de Onis et al., 2013; Maternal Child Nutrition Study Group, 2013). Growth impairment (low birth weight, stunting) is a potent indicator of early malnutrition (WHO Expert Committee, 1995) closely associated with poorer cognitive function, school attainments, health, and adult household income (Adair et al., 2013; Hoddinott et al., 2013). Indeed, some have used multinational data to argue for a tight focus on gestation and early life, asserting that: “The window of opportunity for preventing undernutrition ends at 2 years of age” (Victora et al., 2010, p. e473). Malnutrition commonly co-occurs with a suite of adverse conditions that together synergistically impair a child’s developmental potential at the outset. An influential *Lancet*

review highlighted the consequent massive global loss of human potential and plotted pathways mediating that loss in terms of impaired physical growth, psychobehavioral development, and school performance (Grantham-McGregor et al., 2007). One of two prime pathways ran directly through primary caregivers, via their impact on home rearing conditions, which drew both emphasis and burden to caregivers. Subsequent models have expanded to include critical determinants of domestic environments, namely the distal political, structural, and economic forces that shape the quality of living conditions and determine access to material, social, and service resources (Black et al., 2013).

Thus, confluent streams of evidence, one demonstrating the enduring impact of material conditions and another that of psychosocial conditions during pregnancy and the first two years, have focused global and reproductive health policy and intervention on the “first 1000 days” (Black et al., 2013; Save the Children, 2012; Walker et al., 2011). Complicating this focus is evidence documenting later sensitive periods such as adolescence with concurrent opportunities for intervention to enhance outcomes (Wachs et al., 2014), and calls for an integrated life course perspective (Britto and Perez-Escamilla, 2013). Yet other research suggests that a crucial link between evidence-based intervention and improvement of early child outcomes is the agency of parents themselves, conditioned by perceptions, local culture, and structural constraints (Harkness et al., 2013). Cross-cultural studies of child development have found that ethnotheories of child development and appropriate caregiving guide caregiver behavior and shape the early environments of child development, or developmental niche (DeCaro and Worthman, 2007; Harkness et al., 2011; Super and Harkness, 1986). The rearing environment shaped by such ethnotheories and related parenting practices, in turn, demonstrably influences child socioemotional development and psychobehavioral outcomes (DeCaro and Worthman, 2008; Super et al., 2008; Taverna et al., 2011). For example, cultural differences in valued temperamental styles in seven European societies informed parents’ organization of infant daily routines and responses to infant emotional behaviors that conditioned distinctive infant arousal patterns (Harkness et al., 2007). However, evolving expert consensus on optimal conditions for early child development may not readily engender rapport with parent beliefs and related practices. Rather, comparison of knowledge held by scientists and local respondents routinely discovers a lack of agreement between them (Gartin et al., 2010). For instance, a study of perceived food value and preferences regarding appropriate young child (<2) feeding practices among working mothers in Mexico (Rodriguez-Oliveros et al., 2014) concluded that “Mothers’ perceptions and values may differ from those of nutritionists and program designers, and should be addressed when promoting opportune introduction of complementary foods in social programs” (Rodriguez-Oliveros et al., 2014, p. 144).

These recent reports align with an early recognition that successful introduction of an intervention essentially entails a concomitant change in local culture (Paul, 1955), suggesting that evidence-based policy and interventions also should attend to caregiver agency if they are to yield improved early child outcomes. But agency rests not only on the agent’s beliefs, goals, and practices but also on ability to act and influence pervasive factors that drive outcomes (Nussbaum, 2011). Caregivers cannot directly control ambient levels of pollution, public safety, availability and quality of health services, and other potent influences on early child development (Evans, 2006; Steptoe and Feldman, 2001; Theall et

al., 2013). Poverty and social disadvantage both compound exposure to risky conditions and erode ability to manage them (Acevedo-Garcia et al., 2014; Pachter et al., 2006; Schulz et al., 2013), such that child outcomes improve when disadvantaged families are moved to better neighborhoods (Chetty et al., 2015) or poverty is alleviated (Costello et al., 2003).

We have been engaging these issues in ongoing work with a cohort of mother-child pairs recruited in the second trimester of pregnancy for participation in a randomized controlled trial of a home-visiting intervention for maternal and child nutrition in Khayelitsha neighborhoods (Rotheram-Borus et al., 2011). The intervention built on evidence for the efficacy of nurse-delivered home-visiting programs in the U.S. to durably improve health and socio-emotional outcomes, particularly among children of low income or at-risk mothers (Olds et al., 2002; Sweet and Appelbaum, 2004). Our program deployed trained community mentor mothers delivering home visits aimed to build maternal agency to address major prevailing maternal and child health problems (HIV, TB, malnutrition, alcohol ab/use) and check child growth. The intervention realized improvements in maternal care and infant outcomes postpartum and at age 6 months (le Roux et al., 2013), but sustaining infant growth depended on continued home visits (Rotheram-Borus et al., 2014). We considered whether local beliefs and practices around child development and appropriate caregiving might, along with material and contextual constraints, overwhelm the messages conveyed in the intervention and blunt its impact unless continuous reinforcement and support were provided.

Accordingly, we set out to understand parent ethnotheories about early child developmental needs, appropriate parenting, and effects of quality of early childcare, and in the process encountered respondent views suggesting caregiving priorities outside this domain. In this report, we ask whether the shared emphasis on the first 1000 days that infuses leading edge policy and intervention is matched by caregiver perceptions of where their effort is best placed. Consequently, the first hypothesis posits that caregivers in Khayelitsha share a common perception of early childhood as a significant sensitive period where care can exert the greatest long-term effect. We furthermore consider whether expert concerns about the long-term psychobehavioral and health effects of early care are shared by caregivers. Hence, the second hypothesis concerns the rationale that caregivers in Khayelitsha used for the age they selected as most open to parental influence. It posits that mothers would identify the development of foundational psychobehavioral capacities as a key goal for parental effort.

Methods

Study site

The research took place in the largest peri-urban settlement of Cape Town, Khayelitsha (“new home” in isiXhosa; 2011 population about 392,000). Such settlements were initially established under apartheid policies that segregated black and colored people to the city margins, and then expanded to accommodate burgeoning in-migration that had doubled the number of households in Khayelitsha in the space of 10 years alone (2001–2011). From the outset, settlements have been geographically separated from the economic base in and around Cape Town, which stunts income opportunity and promotes impoverishment and destitution. Recent census data for the Khayelitsha Health District documented 38%

unemployment, 74% below the poverty line (monthly income R 3,200), 55% in informal housing, and 64% without secondary school graduation (City of Cape Town, 2006; Strategic Development Information, 2013). Concerted council efforts to supply infrastructure struggle to keep up with population growth: 12 to 27% of households lacked indoor plumbing, flush toilets, regular refuse removal, or indoor lighting. Residents are largely isiXhosa speakers (95%) drawn from the Eastern Cape, a thinly resourced region with pervasive unemployment. The population is young, 49% being under age 25 years and 12% being under age 5. Over 40% of mothers report being unmarried or not living with a partner, contributing to reliance on grandmothers and other kin for childcare and support. Rural ties remain strong, families return to visit 2–3 times a year, and children may be left in the care of rural relatives (around 25% by age 3 years). Although the economic and physical living conditions commonly were regarded as challenging, health care facilities as well as numerous government services and non-government organizations serve the settlement.

Procedures

The study was conducted at a community center—Football for Hope, Khayelitsha—during the month of October, 2012, with assistance of local professional program staff of the Prevention Research for Community and Child Health unit (www.preventionresearch.org.za). Collection of data for the present report was stimulated by results from the early stages of a cultural consensus inquiry into beliefs about young child development and appropriate parenting. Interviews and discussions for the formative stage of cultural consensus involved key informants (n = 6) and then focus groups (n=3) that included 11 mothers and grandmothers, and 5 fathers and grandfathers. Key informants were both individuals with extensive experience or insight, including not only parents and grandparents, but also community leaders, and family and health services staff or professionals. Focus groups drew upon residents of Khayelitsha who were not members of another ongoing study. Some participant views and priorities expressed in these contexts challenged our narrow focus on infancy and early childhood, and suggested the need for a more general probe about where parents believe their efforts can most benefit their children's outcomes.

This insight led to formulation of the target question: “While a child is growing up, from infancy until adulthood, at what stage or age can parents have the most influence on its development?” The question was included in a structured freelist protocol about early child developmental needs and parenting practices. The freelist protocol and focal question were administered to 8 groups of 3–6 women (n = 38) who were drawn from either a sample identified for potential recruitment into a mother-infant book-sharing pilot program (see description in Cooper et al., 2014), or related grandmothers who were primary or significant caregivers of the infant. Thus, our participants fell into three groups of locally appropriate caregivers: mothers caring for their own infants and underage children (n = 22, age mean 24, range 21–38 years), mothers caring for grandchild/ren and their own underage children (n = 10, age mean 44, range 39–54 years), and grandmothers who care for their grandchildren (n = 6, age mean 67, range 63–75 years). The sample included no mother-grandmother pairs. Participation in the study involved a single session that was presented as seeking caregiver views and experience and, if relevant, as independent of participation in the book-sharing

study. None of our participants was engaged in other ongoing community studies, though some had just been recruited into the independent book-sharing pilot or were recruited later on.

All mothers were literate and independently wrote responses for both the free lists and the target question. Once participants had completed the written task, an experienced local facilitator led group discussion of rationales, beliefs, and values behind the responses and also probed differences among respondents. All participants were native isiXhosa speakers, and interviews were conducted in that language. Sessions were recorded with individual specific consent, and transcribed and translated into English by native speaking staff. Most written responses were in English but those in isiXhosa also were translated into English for coding. Research was conducted and consents obtained under permits from Emory University, Stellenbosch University, and University of California at Los Angeles (UCLA). Free transport for interviews was provided for participants, who also were given packets of comestibles (fruit, tea, and sugar) in return for their time.

Analysis

Ages nominated in response to the target question were coded and analyzed with the UCINET program specifically designed for testing cultural consensus datasets (<https://sites.google.com/site/ucinetsoftware/downloads>). Other statistics were performed in STATA 13.0. Rationales given by respondents for their answer to the target question during group discussion were coded for thematic content from transcribed recordings, and tabulated as frequency counts by theme. The transcripts also provided direct quotes cited here to illustrate common themes, beliefs, and values that parents expressed, to aid interpretation of our findings and suggest possible avenues for future research.

Results

We present the findings to address our two study hypotheses in turn.

Early childhood as a crucial sensitive period

The first hypothesis posits that caregivers in Khayelitsha share a common perception of early childhood as a significant sensitive period where care can exert the greatest long-term effect. Of the 38 mothers, nearly all identified a specific age although 3 said that parenting impact was significant at every or nearly every age. Nominated target ages are shown by age group in Table 1. Median age nominated by mothers was 12, mean 11.7, $SD = 3.5$, range .67 to 18 years. Notably, only one mother identified infancy or early childhood, ages five or under (eight months, in this case), as most important. Indeed, one of three mothers who opted for a wide age range excluded infancy and specified that parental care was important from toddlerhood onward to adulthood. Moreover, few caregivers (16%) identified ages 6–9 as key. Rather, the great majority (78%) selected ages 10 and above, with a strong preference for the early teen years, ages 10–15.

Insert Table 1 about here In line with the apparent convergence of responses, a test for agreement on target age using cultural consensus analysis by the four age categories found strong concordance. Largest Eigenvalue was 28 and ratio to next largest was 4, meeting the

criterion for good agreement in terms of a single factor solution to the matrix of responses (Weller, 2007). Such consensus supported both a shared focus on the early teen years and a systematic absence of emphasis on infancy and early childhood.

Foci of parental concern and effort

The second hypothesis concerns the rationale that caregivers in Khayelitsha used for the age they selected as most open to parental influence. It posits that mothers would identify the development of foundational psychobehavioral capacities as a key goal for parenting effort. All but two respondents offered reasons (average 2.4 per mother) for their choice in follow-up discussion. Overall, targets of parent concern or action fell into nine major categories, as outlined with examples in Table 2. The themes overwhelmingly cast parental influence as directed at practical concerns for concrete outcomes. The rationale (danger) given by the mother who selected 8 months as the target age said parental monitoring was essential for preventing physical injury in the crawling/toddler stage. Those targeting later childhood pointed to the value of parental guidance, advice, and role modeling for their children to promote school performance, moral development, self protection, and life skills. Older children's maturing cognitive capacities that made them "teachable" were flagged as both supporting and requiring such parental input.

Reasons for the focus on early teen years highlighted two main arenas for parental action—monitor/control and inform/advise—to help the young person negotiate a suite of developmental needs and risks ushered in by puberty. Respondents had a lot to say about caregiver roles in this period. Parental perceived need for monitoring and controlling the child's development and behavior came sharply into focus as puberty approached. Caregivers emphasized the importance of close attention to pubertal status (especially onset of menses) both to know when to supply appropriate information and advice, and to detect and moderate risk behaviors and relationships. The need for parental monitoring was further justified by wide individual differences and therefore uncertainty in the timing of puberty alongside its earlier onset compared to their and their parents' experiences. Adolescents' penchant for experimentation along with the rising importance of peers were cited as calling for counterbalancing parental input to prevent consequent risk behaviors in the early teen years. Specific concerns included smoking, alcohol use, involvement in gangs, and reproductive risk. Early pregnancy was frequently singled out as a negative outcome that parents must strive to prevent. Complementing their role in monitoring, mothers emphasized their role as providers of information, guidance, and advice that would aid youth in safely navigating the risks of adolescence. Timely sex education by parents was commonly mentioned, invoking needs for "coach and caution", "serious talk", "have an open relationship", and "talk openly". Interestingly, although sexual experimentation by girls and to a much lesser degree boys was a concern, we note the absence of expressed fears about contracting sexually transmitted diseases (STDs), especially HIV/AIDS in this relatively high prevalence area. Stigma avoidance may explain this: mentioning HIV, or even STDs suggests the possibility of being seropositive, which is extremely stigmatized. Note also that neither school performance nor risk of failure was mentioned as a target of caregiver action, for different reasons likely related to a history of disincentive for school achievement under apartheid and limited perceived access to opportunity through education.

Later adolescence and early adulthood (ages 16–18) were selected by only 4 respondents. Three were motivated by the need to buffer the power of peer relationships and negative social influences, to sustain caregivers' influence as youth approach adulthood and prevent the life course derailments that can afflict older youth. One cited the large influence that parents had on her at that age. The sole person who selected age 18 was oriented to setting the child on a positive track through life once maturity was reached.

Lastly, the small group who said that every age is important all pointed to a child's needs and capacity to learn throughout the succession of developmental stages ("children are clever"), such that parents needed to adjust their care to meet ongoing developmental strengths and needs, guiding them through, as one mother said, "all the dangers of life up until the age of 21..., responsible and independent". The emphasis was on achieving age appropriate skills, moral development, and provision of information and advice.

Both the distribution and the content of caregiver rationales appeared to emphasize how parents can build on or buffer aspects of expectable child development regarded as desirable or undesirable, to achieve an optimal outcome. Respondents did not flag the impact of adversity on child development, despite raising children under difficult-to-deprived circumstances. The need to marshal sufficient material resources to support child development was not mentioned. A study involving a large cohort of mothers in this area has documented that many mothers keenly feel the burden of providing daily food, material comforts, and physical security and safety for their children (Dewing et al., 2013). Although adversity was not highlighted in our queries, the absence of discussion of these burdens suggests a social desirability effect, an avoidance of sharing details of material hardship. Mothers focused on opportunities and challenges in direct parenting their of children, less so on the circumstances under which they were doing so. How this approach played out in parenting beliefs and practices is discussed in the following section.

Conclusions

Findings from this study appear to refute both our initial hypotheses. Despite overwhelming scientific evidence for sustained and substantive effects of early adversity on outcomes such as school performance, earnings, and mental and physical health, the caregivers in our sample instead focused on early adolescence although they were raising small children under conditions with high risk for such effects. The consensus response is the more surprising because the question came after mothers had just completed four freelists about early child developmental needs and parenting. Similarly, discussion of caregivers' reasons for age/stage selection was conducted after the structured discussions of freelist responses. Nomination of age 12, early-mid puberty, as the time when parents can most influence child outcomes, points to pressing concerns that eclipse early life matters. Alternatively, early development may be viewed as less amenable to parental influence. We consider these possibilities in turn.

Why the focus on early adolescence?

When discussing their selection of target age/stage, participants highlighted urgent issues with clear consequences that come on line at puberty and early-mid adolescence, and that

posed realistic threats in their community. Puberty itself raised new physical, psychological and behavioral risks and possibilities where youth became eager for experimentation and exploration, tuned in to peers and open to peer pressure, and capable of reproduction. Respondents associated these new possibilities with potential consequences having long-term or even life threatening effects, including involvement in gangs, substance ab/use, and early pregnancy. At the same time, adolescents' burgeoning cognitive skills were thought to support their acute need for information and guidance to negotiate novel life terrain, enhance their capacities for moral reasoning, and hence open them to influence by "serious talk" with parents. The risks are imminent: endemic interpersonal and gendered violence drive injury-related mortality rates in South Africa to being second highest in the world (Seedat et al., 2009); violence- and alcohol-related crime rates in Khayelitsha are correspondingly high (Crime Stats SA, 2014). Boys and young men are most likely to be killed (Seedat et al., 2009), but girls and young women experience high reproductive health risk. Although 15% of deaths in Khayelitsha are caused by physical trauma (assaults and accidents), nearly a quarter are caused by HIV/AIDS (City of Cape Town, 2006). Of all births in Khayelitsha, 6% are to mothers under age 18 (City of Cape Town, 2004a), and 26% of a large sample of pregnant mothers residing there reported living with HIV (le Roux et al., 2013). Best practices for parenting young adolescents endorsed by our sample commonly involved close monitoring, influence on schedule and peer relationships, and strategic provision of information, advice, and counseling.

Caregivers' consensus view of early-mid adolescence as a period for maximal parental influence resonates with recent recognition that early development is not the only sensitive period: puberty/adolescence opens distinctive maturational windows in body and brain as well as socioemotional development with enduring effects on function and health (Blakemore and Mills, 2014; Zeanah et al., 2011). Brain maturational changes during this period are paralleled by altered emotion processing (Dahl and Gunnar, 2009; Forbes and Dahl, 2005; Forbes et al., 2011) and biological embedding from traumatic experience (Ganzel et al., 2013), and mediate relationships between experience and context with social behavior (Worthman, 2011a), risk taking (Forbes et al., 2010), mental health (Andersen and Teicher, 2008), and survivorship (Falconi et al., 2014). These dynamics also conduce to a "social embedding" of poor environment and reproduction of disadvantage whereby disproportionate developmental risks and their psychobehavioral impact both potentiate life course derailments such as early pregnancy, school failure, and substance abuse, and erode capacities to recover from them. Moreover, caring support and close attention to help adolescents through this challenging period may be particularly important for those who have been subject to cumulative risks from poor environments (Theall et al., 2012).

Why not emphasize infancy and early childhood?

The absence of respondent focus on early childcare is surprising: indeed, only one endorsed early life as the time for greatest parental impact. To some extent, relatively good maternal and child health services and health outcomes may allay perception of high risk early in life. Although mortality rates in Khayelitsha for infants and under-5 children were the highest in the entire metro region, at 3.5% in 2005 and 10.5% in 2004, respectively (City of Cape Town, 2004b), these rates nevertheless were relatively low for South Africa, markedly so

compared to rural areas including the Eastern Cape from which many have emigrated (Sartorius et al., 2011). In follow-up discussion, parents expressed a view that young children develop “naturally”. Respondents universally mentioned the early need for love and nearly all also cited food and care with the reasoning that, if the child receives the requisite love, food, and care, early development will take its course. As one mother put it, children “are like plants” that will flourish if tended appropriately. This view emphasizes care and natural unfolding rather than risks from adversity and insult. Parents further explained that things you can do to guide outcomes of older children (discussing, instructing, being a role model, instilling moral norms) are not relevant or effective for the very young, who “have no sense” until later cognitive development occurs.

Holding such a model of early child development did not mean that caregivers took a *laissez faire* attitude to early child care; rather, they shared distinct views about early child needs, appropriate caregivers, and best parenting practices. In their responses to earlier freelists about parenting before we posed our focal question, caregivers expressed clear opinions on what young children need to grow up properly and how caregivers can promote a “natural unfolding” in early life. They emphasized that child needs included (by frequency of nomination) love, nutrition, care, cleanliness, socialization, and a “good place” that was emotionally warm, snug, adequately spacious, and child friendly. Thus, both physical and emotional needs were flagged as prominent in early development. After mothers and fathers, grandmothers were most commonly nominated as appropriate caregivers. Regarding the specific qualities of good caregivers, respondents emphasized keeping home and child clean, and loving, responsive caregiving (e.g., smiling, listening, always available, supportive). Conversely, hallmarks of poor parenting were a dirty, ill-kept or hungry child, physical or verbal maltreatment, drinking alcohol, lack of love or warmth, dirty home, and leaving children home alone. Caregivers considered that, having met conditions for good care, they and others could be considered good parents. Indeed, many felt they were doing a very good job.

The outcomes that drew parent concern to puberty and early-mid adolescence were concrete and vivid. By contrast, unless one speaks of infant morbidity and mortality (which our sample did not), connections from early insults to later impairments often are delayed and obscured, easily naturalized as part of the individual’s physical or psychological habitus, such as being short or hostile, for instance. Indeed, the recent discovery and delineation of these early-to-later life course connections was a major achievement gained through decades of multidisciplinary research (Bhutta, 2013). Given the risks posed by the circumstances in Khayelitsha, parents in our sample appear to target appropriately a sensitive developmental period to avert acute derailment and promote long-term welfare. In the realm of human growth, an intensive focus on the first 1000 days (Victora et al., 2008) has been tempered, for example, by longitudinal data from five countries showing catch-up achieved thereafter as well as important gains in the puberty/adolescent period (Prentice et al., 2013). Others have pointed out the need to enhance birth and postnatal outcomes by proactively improving preconceptive health among those who will be mothers, namely female adolescents and young women (Bhutta et al., 2013). Of concern is that an overemphasis on early child development may draw attention and resources away from later ages when important developmental goals are attained and major challenges must be faced.

Limitations

Several limitations temper the generalizability of our specific findings. The sample size is small and our focus of inquiry quite narrow. We did attempt to enhance representativeness by drawing from a community-based sample and by including a range of ages, from young first-time mothers to experienced older grandmothers caring for young grandchildren. Although one of the formative focus groups was comprised of men, none were involved in our final sample. Engaging fathers is an important gap in parenting interventions (Panter-Brick et al., 2014) which further qualitative studies can help address. The elicitation of answers and rationale for a single question allowed us to probe more deeply the reasons motivating the responses, but precluded wider inquiry into matters such as views about child vulnerability as such, or perceived constraining structural factors outside parental control. We furthermore note the lack of discussion by parents of adversity, sexually transmitted disease, or school failure, given that all are so prevalent in the community, which suggests possible social desirability dynamics in the interview setting and other cultural or historical factors that merit further probing. Moreover, although responses met criterion for cultural consensus in this case, the result should not be taken to suggest that consensus pervades culture. Rather, several alternative or even competing models commonly circulate in a cultural space to be drawn upon as constraints allow or norms and preferences dictate (Hruschka et al., 2008). Nor would we necessarily expect to replicate our findings among parents in other cultures or even other regions, ethnicities, or socioeconomic groups, for we expect that local conditions as well as wider culture inform the views and practices circulating in specific populations. Yet we would expect that the larger lesson would generalize, namely that greater attention in both developmental and intervention science to local parental beliefs and values regarding child development, parenting, and desired outcomes will enhance efforts to improve developmental outcomes.

Implications

As a human development literature largely based on western populations gains momentum in engaging the rest of humanity and its diversity, it maintains a drive to identify common characteristic needs and conditions that optimize child development anywhere. Among others, caregiver characteristics such as responsiveness and quality of early relationships have been highlighted (Black and Aboud, 2011; Richter, 2004). Globalizing developmental science and policy also encounter a struggle to balance respect and attention to diverse time-tested traditional parenting practices against scientific evidence suggesting that parents everywhere must shift and adapt to optimize child outcomes given their available resources and perceived child futures in a fluid, globalizing world (Britto et al., 2013; Worthman, 2011b). Thus, comparative studies of parenting have veered between uncritical assumptions that “culture knows best” and recognition that different caregiving practices lead to different child outcomes whose value must be gauged under the conditions children experience as grown-ups (Whiting and Edwards, 1988).

Our findings highlight the need for interventions to negotiate these complexities and effectively alert caregivers to the importance of meeting early child development needs for enhancing long-term outcomes including cognitive capacities, socio-emotional functioning, income, and health (Adair et al., 2013; Hoddinott et al., 2013). Parents may be unaware of

these linkages and focused on other, more obvious and immediate challenges to their children's flourishing. Use of effective field methods to open the black box of culture and characterize not only beliefs and practices that are shared (Dressler et al., 2005; Romney et al., 1986; Ryan et al., 2000) but also that are disparate (Hruschka et al., 2008) will be valuable resources in this effort. Such cultural consensus measures on core roles such as parenting open the possibility to assess parents' ability to meet the shared goals for parenting (Hadley and Wutich, 2009). This capacity further supports the need to address the larger structural factors such as class, poverty, inequality, and discrimination that powerfully moderate the material and social quality of early rearing environments anywhere (Stevenson and Worthman, 2014).

Our results furthermore support the potential value of complementing an emphasis on the first 1000 days with a broader consideration of gains to be achieved throughout development, particularly in adolescence (Wachs et al., 2014). Efforts to realize the great developmental gains achievable in early life need not divert us from reciprocal efforts to realize the additional, distinctive benefits to be reaped at later ages. Life's vicissitudes ensure that early insults will occur, and it is important to identify when and how outcomes can be enhanced and damage recouped throughout development (Britto and Perez-Escamilla, 2013). Moreover, early intervention to improve infant outcomes establishes a foundation that yields enhanced benefit to interventions in adolescence (Black et al., 2015). At around 1.8 billion, today's cohort of young people ages 10–24 comprise more than a quarter of humanity and likely represents the largest such cohort that will occur in human history (Worthman, 2011b). In the pursuit of public health and Millennium Development Goals, their health has improved much less than that of younger children and their particular needs in areas of mental health and employment are greatly underserved (Sawyer et al., 2012). The perspectives shared by parents in our sample are salutary reminders of these challenges.

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- Parents may not share expert views about importance of early child care quality
- Parents may prioritize acute, concrete over long-term developmental risks
- Puberty trumps infancy for parent concerns in a high risk setting
- As a critical period of development, adolescence merits more attention

Table 1

Timing and rationale for age at maximal parental influence

| | All Responses | Target age range | | | | |
|---|---------------|------------------|-----|-------|-------|-----|
| | | 3 | 6-9 | 10-14 | 15-18 | any |
| target age (n) | 38 | 1 | 6 | 20 | 8 | 3 |
| Rationale (percent of respondents) | | | | | | |
| danger | 9 | 100 | 17 | 6 | 0 | 33 |
| monitor, control | 28 | 0 | 17 | 28 | 38 | 33 |
| puberty | 25 | 0 | 17 | 33 | 25 | 0 |
| reproductive risk | 39 | 0 | 17 | 67 | 25 | 0 |
| Peer influence | 31 | 0 | 17 | 33 | 50 | 0 |
| morality | 19 | 0 | 33 | 17 | 0 | 67 |
| teachable | 22 | 0 | 33 | 6 | 13 | 100 |
| inform, advise | 44 | 0 | 83 | 44 | 38 | 67 |
| risk taking | 19 | 0 | 0 | 33 | 13 | 0 |
| Total nominated (n) | 86 | 1 | 12 | 48 | 16 | 9 |

Table 2

Major themes in reasons for choice of target age

| Themes | Examples |
|-------------------|--|
| danger | "crawling stage...might get hurt or burned" "the dangers, results and consequences of doing the wrong things" |
| monitor, control | "keep an eye on your children" "you start monitoring the child at this age" "that's when you must...monitor everything about her, even if she becomes unruly" |
| puberty | "some girls start menstruating at an earlier age than others" "inform the child about body changes" "because if you don't they will get information from the outside" |
| reproductive risk | "the dangers of getting involved with boys, teenage pregnancy" "stage when a girl starts getting attention of the boys and the boys getting the girls' attention" |
| peer influence | "that's when the child gets influenced by friends at school" "get pressure from the peers and get influenced to join a gang" |
| morality | "should be able to know and to differentiate between the wrong and the right" "because our kids are very naughty" |
| teachable | "he can observe a lot of things that's when you can have an influence" "they become aware and conscious when they get to high school level" |
| inform, advise | "needs your guidance" "guide and coach the child as she grows" "have a serious talk and coach her about life before it's too late" |
| risk taking | "maybe a boy wants to experiment with smoking or drinking alcohol" "that's when she wants to experiment with wrong things" |