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# Dysregulated infant temperament and caregiver warmth in Jordanian orphanages: The importance of considering goodness-of-fit☆

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ABSTRACT

The growing literature on the negative effects of large institutions, has not translated into fundamental shifts in models of care in many parts of the world. The current study was part of a larger initiative to develop foster care as an alternative to institutions in the Hashemite Kingdom of Jordan. The primary goal was to assess the early temperament of institutionalized infants, and to increase our understanding of pathways through which self-regulatory deficits may influence early relationship processes. The primary caregivers for a sample of 46 infants in institutional settings were surveyed, reporting on child functioning and their own beliefs about the relationship and their caregiving behavior. The mean age of the infants was 7 months-of-age, and age at entry into institutional care averaged under 3 months. 46% of children entered care through abandonment and a further 39% from unwed pregnancies. Compared to previously published community samples, these institutionalized infants exhibited more difficult and dysregulated temperaments, and temperament was predictive of caregiver perceptions, expectations for the infant's future, and caregiving behavior. The association between infant regulation and caregiver warmth was found to be mediated by caregiver reported goodness-of-fit with the infant. The current study adds to the literature painting institutionalized infants as a particularly vulnerable group in temperamental domains key to the development of self-regulation, an important underpinning of early mental health. The findings point to the need for staff training and support for children in institutions that consider the importance of goodness-of-fit with caregivers, while underscoring the need for continuing a shift to community-based alternatives.

## 1. Introduction

In high-income countries we have seen a shift from reliance on large institutional models of care toward family-based foster care and, for those who need a more structured and supportive environment, smaller group home models (Frank, Klass, Earls, & Eisenberg, 1996; Hacsi, 1995). Despite a large and growing literature on the deleterious effects of children being reared in large institutional settings (Bos et al., 2011; Johnson, Miller, Iverson, et al., 1992; Nelson et al., 2007; Smyke, Koga, Johnson, et al., 2007; van IJzendoorn, Juffer, & Poelhuis, 2005), however, we see many low- and middle-income countries continuing to rely on institutional settings as the sole, or predominant, model of care (Thabet, 2007). The Middle East and broader region has been no exception with developmental deficits in behavioral functioning and mental health found for youth in institutional care in Turkey (Erol, Simsek, & Munir, 2010; Simsek, Erol, Oztop, & Munir, 2007), Iraq (Ahmad & Mohamad, 1996), the Gaza Strip (Thabet, 2007), and the Hashemite Kingdom of Jordan (Gearing, MacKenzie, Schwalbe, Brewer, & Ibrahim, 2013; MacKenzie et al., 2012). With the reality that many children will continue to experience institutional rearing even as community alternatives are explored, there remains a need to further our understanding of developmental processes which may give rise to these deficits across childhood, beyond the obvious structural factors associated with social deprivation.

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Dysregulated infant temperament has implications for early relationship disturbances, and has been an important mechanism for understanding the self-regulatory underpinnings of mental health (Bridgett et al., 2011; Rothbart, 1981; Rothbart, Ziaie, & O'Boyle, 1992). Much of the thinking in this area has been guided by a transactional model of development (Sameroff & MacKenzie, 2003), which sees development as a mutually constructed dynamic process involving ongoing reciprocal effects between child and context over time. Through such a transactional lens, infants exhibiting difficulties in regulatory capacity may be particularly vulnerable to negative caregiver perceptions and attributions, which influence subsequent caregiving sensitivity and harshness (MacKenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2013), and in a cyclical manner downstream child functioning (MacKenzie & McDonough, 2009). The experience of trauma, loss, caregiver turnover, as well as maltreatment for institutionalized infants may challenge the organization and coherence of emerging physiological and emotional regulatory capacities (Boyce, Barr, & Zeltzer, 1992) and attachment (Chase Stovall & Dozier, 1998; Dozier & Lindheim, 2006). When coupled with the sort of social deprivation found in large institutional settings this may set the child on an amplifying trajectory toward severe deficits in self-regulation and mental health.

Jordan has been a regional leader in the Middle East through their efforts to improve child caring institutions, referred to as care centers. While this article focuses specifically on the infant nursery wing, it is informative to first provide an overview of what the care model looks like as children age through the institution. Despite resource constraints, they have begun to move away from larger dormitory-style orphanages toward facilities divided up into smaller apartments. In this model, each apartment in the care center typically has somewhere between 8 and 10 children with 2 assigned staff serving as housemothers who alternate places each week living in the apartment with the children. In addition to these remodeling efforts in the current larger institutions, new facilities for children in middle childhood through adolescence have been developed that are smaller freestanding homes in residential areas with 3–4 apartments of 8–12 youth each, following the house parent model. Infants who are the focus of the current study, however, continue to be cared for in the nursery wing of a larger institution where their regular daily care is provided by primary caregivers, supplemented with nursing and social work staff. The nursery wing has several large bedrooms with multiple cribs in each, as well as a common living room area adjoining those bedrooms. There is a set schedule for feedings, regular diaper checks, and regular and high quality medical checks, but in between those structured caretaking activities, with more infants than there are staff on at any one time, there is more variability in the time that each infant may get being held. Some children are held more than others, some get cuddled more, and some spend more time than others in their crib. It was important to attempt, in this exploratory work, to begin to better understand the extent to which that variability may be associated with variation in the children and the staff perceptions of them.

These policy shifts have been coupled with an initiative supported by the United Nations Children's Fund (UNICEF), bringing together a government-university partnership, the Community-Family Integration Teams (C-FIT) project, to develop community-based alternative foster care arrangements for institutionalized children in Jordan. The C-FIT program has worked closely with community stakeholders, religious leaders, judicial partners, and the Ministry of Social Development (MoSD) to develop a culturally congruent model (Gearing et al., 2013), and recently launched the first formal State run therapeutic treatment foster care program in an Arab country. But even as these alternative care arrangements are implemented, MoSD recognizes the need to improve understanding of mechanisms leading to poor outcomes for those children who continue to be served in institutional models. This may be particularly important due to the current pressure on existing limited resources by the influx of displaced Syrian families, which are further taxing Jordanian social services and diverting funds from donor-States away from Jordanian programming.

The current exploratory study focused on assessing the developmental regulatory capacity and temperamental characteristics of infants in Jordanian care centers, both to guide alternative models of care and to offer information useful to those working to improve the remaining institutions, even as a transition to community-based alternatives is underway. A further exploratory goal was to begin examining potential associations between infant temperamental dysregulation and caregiver perceptions and behavior. This has the potential for generating hypotheses for future longitudinal work that can speak more to directionality in these complex caregiving transactions, and might allow us to begin to elucidate the role of child factors in eliciting differential care and what that might mean for staff training in such facilities.

## 2. Methods

### 2.1. Sample and design

This study reports on findings from part of a larger initiative, the Community-Family Integration Team (C-FIT) project, aimed at assessing the mental health and developmental well-being of children in care homes in the Hashemite Kingdom of Jordan and to develop community-based foster care alternatives to institutional placement. Data was collected on 46 infants residing in two care centers across Jordan. At the time of the study, Jordan had 25 care centers serving children of various ages, but these two centers were the primary providers of care for newborns and infants, with the exception of some private providers through International aid and relief organizations outside of the formal Ministry care system. Infants enter into care home system through a variety of routes, including family disintegration, unwed pregnancy, child maltreatment, and infants who were abandoned or from unknown parents. For each infant, the primary staff member responsible for their care (and who knew them for at least 2 weeks) was asked to complete a survey by trained local research staff, which assessed the infant's behavior and temperament as well as questions relevant to caregiving, including caregiver perceived goodness-of-fit with the child, future expectations for the child, and caregiving behavior items. In addition, case files were reviewed and data was extracted on reasons for placements and length of time in placement.

All procedures for this study received approval from Institutional Review Boards in the U.S. and in Jordan. Because the government may have dual interests in their position as guardian of the children, with a desire to both serve the best interests of individual children, and also an interest in having research evidence to inform the delivery of services to all children, and because of the possibility that these two interests may be competing in the case of the participation of an individual child, we also took steps to provide additional independent oversight. To guard against this possibility that the Ministry had an incentive for broad participation in order to increase their capacity to improve centers that might conflict with the needs of a particular child around participation, we appointed an independent Ph.D.-level Jordanian social worker unaffiliated with the project or with the Ministry to serve as a special advocate on behalf of the children. The special advocate was provided all study materials and questions and was given the schedule for our visits to various care centers, so that he could perform unannounced site visits to observe our work and children involved in any assessment. The special advocate was also notified in the event of any special incidents, including infant distress during assessment, any disclosure of maltreatment by staff, any suspicion of signs of maltreatment observed by our interview teams, or other concerns for child safety. Staff were asked to complete the surveys on the children, and to protect staff ability to refuse participation, we built in careful ethical protections shared with staff that neither center directors nor Ministry officials would be given back any information on staff choosing not to participate in the surveys. We offered an information session in Arabic to staff