

The Assessment of the Organizational Construct of Mastery Motivation: The Reliability and Validity in Infants of 9 Months Old

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Mastery motivation (MM) emerges as early as in infancy and has been regarded as an important developmental precursor for later achievement motivation. Traditionally, MM was defined and measured in terms of infant independent effort, persistence, and maintaining focused to gain control over the environment. However, other than the instrumental and expressive definition of MM postulated by Barrett and Morgan (1995), social relatedness (Ryan & Deci, 2000), self-regulation of effort (Boekaerts, 2006), resourcefulness (Waters & Sroufe, 1983; Zimmerman & Kitsantas, 2005), and the adaptive organization of the above behaviors (Seifer & Vaughn, 1995) may also contribute to the individual differences of MM. The present study adopted the organizational perspective and developed a new observational scheme for assessing MM. The Q-set of Mastery Motivation for Infants and Toddlers (QMMIT; English version is available through contacting Keng-Ling Lay) consists of 63 items distributed in 14 subscales of (1) Task Interest, (2) Task Goals, (3) Engagement Style, (4) Involvement, (5) Volition, (6) Relatedness with Significant Others, (7) Reaction to Others' Help, (8) Resourcefulness, (9) Social Dependency, (10) Negative Emotional Reaction to Challenges, (11) Negative Behavioral Reaction to Challenges, (12) Self-Evaluation, (13) Reaction to Success, and (14) General Mood States. Study 1 tested if the newly elaborated definition of MM can be differentiated against other socioemotional constructs. Participants were ten psychology professionals and four college students. Their tasks were to define the hypothetically most mastery oriented, securely attached, positive-emotion laden, sociable, and socially desirable child by using the QMMIT. Results demonstrated that, after controlling for social desirability, MM was a discrete construct from attachment security and sociability. Nonparametric Mann-Whitney U tests further indicated that at least one fourth of the items in the QMMIT significantly differentiated the organizational construct of MM from positive emotion, attachment security, and sociability. Study 2 examined the reliability and the convergent and discriminant validity of the QMMIT. Fifty-three mothers and their 9-month-olds completed two sessions of problem-solving tasks scheduled two weeks apart. Developmental quotient measured by the Mullen Scale and maternal report on the Dimensions of Mastery Questionnaire (DMQ infant version, 17th ed.) were also collected. Results indicated acceptable cross-time ($r(18) = .50$) and cross-task ($r(18) = .52$) reliability of the QMMIT. The Cronbach's α s of 12 out of the 14 subscales in the QMMIT were higher than .60. To document the convergent validity, Object-Oriented Total Involvement (OOTI; sum of engagement style, involvement, and volition) and the Mastery Organization Score (MOS; correlation with the criterion sort of MM) both assessed by the QMMIT were positively correlated with infant persistent behaviors assessed by the DMQ. To document the discriminant validity, neither the correlation between the Resourcefulness assessed by the QMMIT and the social aspect of mastery behaviors assessed by the DMQ nor the correlation between OOTI and the indices of social and gross-motor domain of persistence assessed by the DMQ was significant. Moreover, that MOS was not correlated with developmental quotient indicated that MM measured by the QMMIT is not a reflection of general cognitive competence.

Keywords: *infant, mastery motivation, organizational perspective, parent-child interaction, Q-sort*