



Can the Kids Wait? Family Environment Influences Singapore Young Children's Delay of Gratification

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We sometimes face situations where future benefits for ourselves may conflict with what is most desirable now. The ability to inhibit immediate gratification in order to attain a more valuable but delayed reward is defined as Delay of Gratification (Mischel, Shoda, & Rodriguez, 1989). Delay of Gratification is an important aspect of self-regulation. A young child's ability to delay gratification predicts an array of positive outcomes later in life, such as better social and behavioral development, academic success, health and wealth. Therefore, it is critical to understand what environmental factors can promote young children's Delay of Gratification.

The dynamics underlying the development of self-regulation are complex. Kopp (1982) posited that the development of self-regulation is part of socialization moving from externally to internally regulated behaviors, supplemented by the maturation of attention and parental socialization. In other words, with the child's temperament as a basis, caregiver's behaviors and home environment are crucial for facilitating a young child's socialization and fostering Delay of Gratification.

Contextual risk factors such as lower parental education level and poverty adversely impact young children's self-regulation (Lengua, Honorado, & Bush, 2007; Lengua et al., 2014). More importantly, parenting behaviors play an essential role in nurturing children's self-regulation, especially during the preschool years. Positive parental control such as limit-setting has been a strong predictor of Delay of Gratification (Karreman et al., 2006). In contrast, negative parental control in high power assertion like using harsh punishment may undermine children's internalization of the rules. In addition, modeling and instructional behaviors can help young children learn how to regulate behaviors. Relatedly, it is plausible that parents with certain attributes (e.g., greater verbal cognitive ability and self-regulation) are more likely to use effective and functional parenting behaviors to facilitate their children's socialization, and eventually foster these children's Delay of Gratification. However, direct empirical evidence is still lacking.

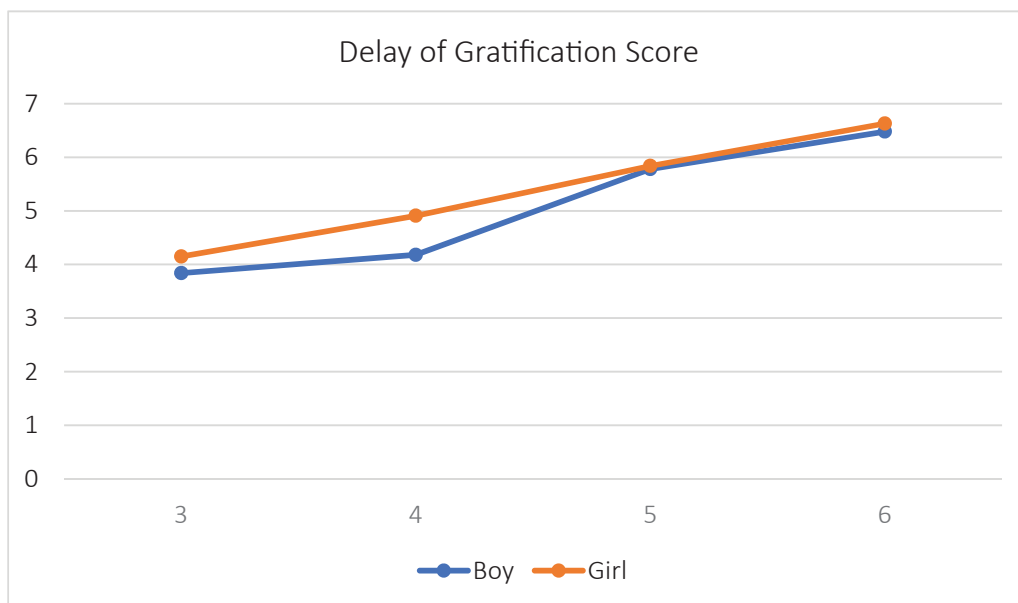
Taken together, it is necessary to investigate how different family processes (including contextual risk factors, parental cognitive verbal and self-regulatory abilities, parenting behaviors, family interactions and physical home environment) work together to shape Singapore young children's Delay of Gratification.

In the current research (Chen & Yeung, April 7, 2021), we analyzed a subset of data from the Singapore Longitudinal Early Development Study (SG LEADS) (Yeung et al. 2020). Data were collected from 2,206 children aged 4-6 years and their primary caregivers. Delay of Gratification was assessed by Prencipe and Zelazo's (2005) standardized choice paradigm with 9 test trials. Each child was presented with both the immediately available small reward and the larger delayed reward. During each test trial, the child was required to choose between getting a smaller reward immediately (e.g., 1 balloon now) and getting a larger but delayed reward about 10 minutes later (e.g., 4 balloons later at the end of the game). Delay of Gratification was indicated by the total number of the test trials in which the child chose to wait for the larger delayed reward (score range: 0-9). Primary caregiver reported family socioeconomic status, primary caregiver's behaviors, and family interactions. Interviewer rated the physical home environment of the household. Hierarchical regression analysis was performed.

Results

First of all, Delay of Gratification was found to be a function of age and gender during preschool years. Young children's ability to delay gratification rapidly improved with age, with girls showing a small advantage (see Figure 1). Delay of Gratification was associated with a self-regulatory aspect of temperament called "effortful control", which accounted for gender difference in Delay of Gratification task performance during the very early years. When a child grows older, he or she has greater ability to shift and focus attention and to inhibit dominant responses, and thus becomes more likely to inhibit immediate desire and wait for larger delayed rewards.

Figure 1. Delay of Gratification task score



Second, a child's ability to delay gratification was not related to family income, but it was related to family economic stress indicated by whether the family usually makes ends meet. Lower family economic stress (i.e., greater ability to make ends meet) was associated with the child's greater ability to delay gratification. This result suggests that when the family manages finance and plans expenditures in a future-orientation, their children can learn to inhibit immediate gratification for better future consequences.

Moreover, primary caregiver's education attainment predicted a child's Delay of Gratification, with primary caregiver's verbal cognitive ability, self-control, and parenting behaviors as the possible mechanisms. Primary caregiver with a higher education level usually has greater verbal cognitive ability and self-control, both of which can promote the child's Delay of Gratification. Caregivers with greater ability to resist temptation and inhibit unfavorable behaviors in daily lives can serve as good role models for children in the family.

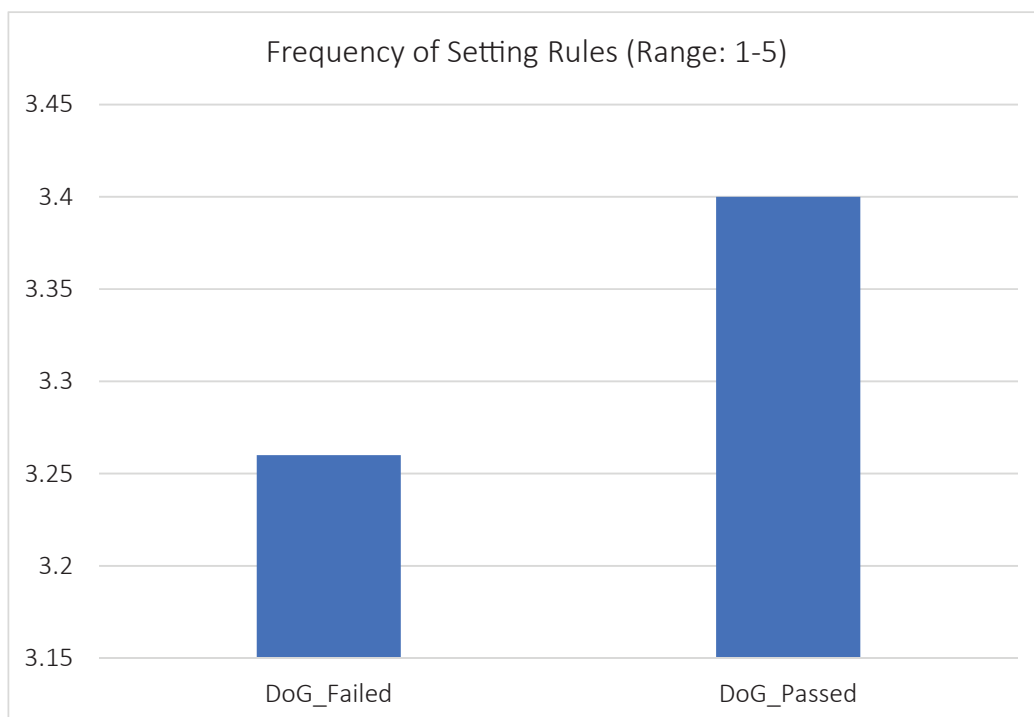
They may also use more functional and effective parenting behaviors to nurture children’s self-control. For instance, parents high on self-control may set limits more often for their children’s activities and enforce these rules. With richer vocabularies and better logical reasoning, they are also able to use appropriate and effective instructions to guide, teach and encourage children to inhibit immediate desire for better future consequences. Eventually, these children internalize the rules, regulate their behaviors internally, and show socially desirable behaviors.

Indeed, our results showed that parental positive control such as limit-setting was significantly associated with young children’s ability to delay gratification (see Figure 2A). Setting boundaries on young children’s activities and behaviors, and enforcing these rules in low to moderate power assertion, accompanied by instructional behaviors, can effectively guide children to internally regulate their behaviors. In contrast, negative parental control with high power assertion (like harsh punishment) fails to create a nurturing environment for children to internalize the control exposed by parents. Although responsiveness/warmth is important for shaping children’s self-identity and emotional development, it did not act as a significant predictor of Delay of Gratification in the current sample.

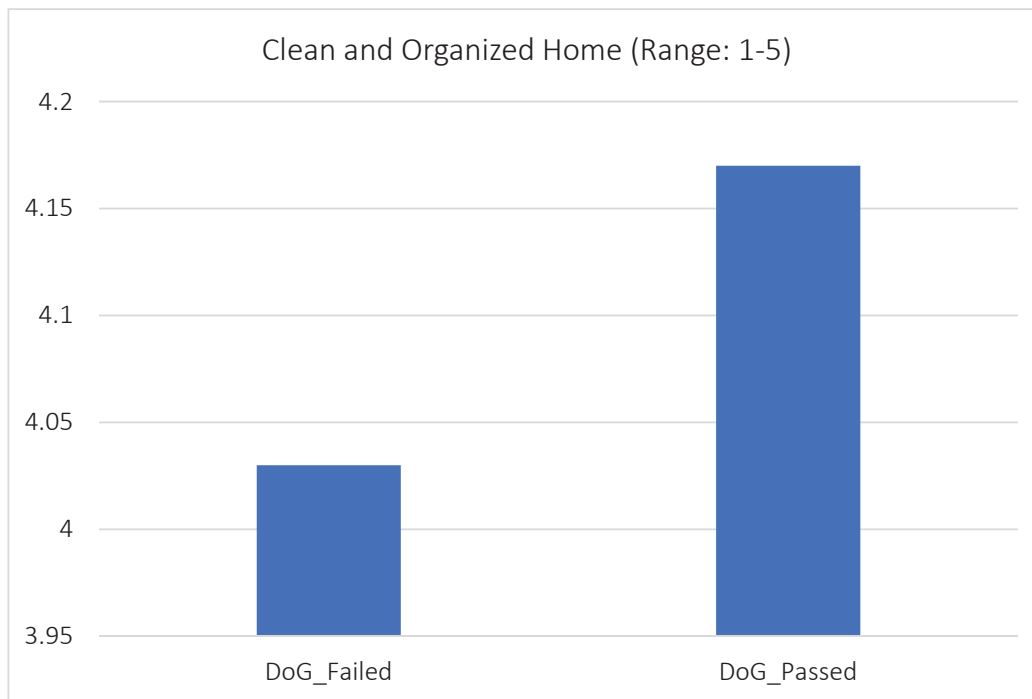
Last but not least, good family relations and physical home environment also contributed to a child’s Delay of Gratification. Having a close relation with the father and an organized clean home environment was related to a better ability to delay gratification. Findings highlight the crucial role of fathers in shaping young children’s self-regulation. Some researchers (e.g., Karreman et al., 2008) found that the contribution of paternal parenting to self-regulation is over and above maternal parenting. It is interesting that an organized clean home environment also contributed to young children’s greater ability to delay gratification (see Figure 2B). A clean and organized house may reflect family members’ self-discipline and enforcement of rules to tidy up the home regularly. These processes can implicitly reinforce young children’s willpower to inhibit immediate gratification in order to obtain better consequences.

Figure 2. Mean scores of rule-setting and physical home environment ratings

(A) Frequency of setting rules



(B) Ratings of physical home environment



Note. For comparison, we categorized scores of 4 and below (meaning the child chose to wait for larger rewards in fewer than a half of the 9 test trials) as “failed”, and scores of 5 and above (meaning the child chose to wait for larger rewards in more than a half of the 9 test trials) as “passed”, in Delay of Gratification task. DoG=Delay of Gratification.

In sum, “control” is usually exposed externally by caregivers in early years, and then gradually internalized by children through socialization. During this process, primary caregiver’s verbal cognitive and self-regulatory abilities, family modeling, positive parental control (e.g., limit-setting), paternal involvement and organized home environment play essential roles in facilitating children to internally regulate their behaviors, and eventually achieve self-regulation as they age.

Reference

Chen, L. & Yeung, WJ. (2021, April). *Contributions of Family Processes to the Development of Delay of Gratification in Preschool-aged Children*. Presented at the Society for Research in Child Development (SRCD) 2021 Virtual Biennial Meeting.

Karreman, A., Van Tuijl, C., van Aken, M. A., & Deković, M. (2006). Parenting and self-regulation in preschoolers: A meta-analysis. *Infant and Child Development: An International Journal of Research and Practice*, 15(6), 561-579. <https://doi.org/10.1002/icd.478>

Karreman, A., van Tuijl, C., van Aken, M. A. G., & Deković, M. (2008). Parenting, coparenting, and effortful control in preschoolers. *Journal of Family Psychology*, 22(1), 30–40. <https://doi.org/10.1037/0893-3200.22.1.30>

Kopp, C. B. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental Psychology*, 18(2), 199–214. <https://doi.org/10.1037/0012-1649.18.2.199>

Lengua, L. J., Honorado, E., & Bush, N. R. (2007). Contextual risk and parenting as predictors of effortful control and social competence in preschool children. *Journal of Applied Developmental Psychology*, 28(1), 40-55. <https://doi.org/10.1016/j.appdev.2006.10.001>

Lengua, L. J., Kiff, C., Moran, L., Zalewski, M., Thompson, S., Cortes, R., & Ruberry, E. (2014). Parenting mediates the effects of income and cumulative risk on the development of effortful control. *Social Development*, 23(3), 631-649. <https://doi.org/10.1111/sode.12071>

Mischel, W., Shoda, Y., & Rodriguez, M. I. (1989). Delay of gratification in children. *Science*, 244(4907), 933-938.

Prencipe, A., & Zelazo, P. D. (2005). Development of affective decision making for self and other: Evidence for the integration of first-and third-person perspectives. *Psychological Science*, 16(7), 501-505. <https://doi.org/10.1111/j.0956-7976.2005.01564.x>

Yeung, W.-J. J., Pasaraba, L. J. M., Chen, X., Chen, L., Lee, Y. S., & Tan, J. (2019). Singapore Longitudinal Early Development Study (SG LEADS): User Guide.

Singapore Longitudinal Early Development Study (SG LEADS): <https://fass.nus.edu.sg/cfpr/sgleads/>