

## Self-Regulation in Developing Children as Represented by Three Albertan Parenting Magazines

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**S**elf-regulation (SR) is the ability to alter behavioral responses in response to interactions with the environment. Children who develop skills associated with high SR early in life are more prepared for school than children who fail to develop these skills. The purpose of this study was to identify the messages used to describe SR by 3 Albertan parenting magazines. An environmental scan was used to collect data from 3 Albertan parenting magazines: Apple Magazine, Calgary Childs Magazine, and Red Deer Childs Magazine published within January 2010- January 2015. A textual analysis was conducted to identify the overall SR messages presented to the public. Inductive coding was used to organize similar themes into larger categories and thereafter to determine how these Albertan media resources suggest the development of SR in children. Three themes emerged from the scan: parental role in the development of SR, disciplining children in a way that builds SR, and coping mechanisms for parents in response to tantrums. Albertan media resources describe SR in a way that is consistent with the current literature. Public resources available to parents address issues

related to SR and effective management tools for parents. However, long-term consequences of early development of SR are not discussed as frequently. These results will be used to communicate with policy makers in order to develop or strengthen interventions targeted toward children who are at risk for developing poor SR. **Keywords:** Self-regulation: The way children control and express their emotions, attention and interactions with their environment; Early childhood development: The process of development of self-regulation in early childhood that can have positive outcomes on later growth.

### Introduction

Early childhood development impacts childrens future academic success and economic productivity<sup>1,2</sup>. Behavior regulation or self-regulation (SR) as a component of early childhood development begins during early childhood and continues throughout adolescence. SR is a construct referring to the way children control and express their emotions, attention and interactions with their environment<sup>3,4</sup>. The first five years of a childs life are critical in the development of SR skills<sup>1</sup>. These skills develop with the maturation of the pre-frontal cortex

across the life-course and are essential for success in both school achievement and peer relations<sup>5,6</sup>. Developmental milestones in children, including the ability to regulate behaviors, begin at 12 months and continue until 36 months of age<sup>7,8</sup>. Simple SR behaviors, such as adjusting behavior and obedience to caregivers, need to be reinforced to reduce negative behavioral outcomes later in life<sup>8</sup>.

## SR Behaviors

SR occurs on a continuum where certain behaviors demonstrate strong to weak SR. Positive SR skills, for example, waiting for turns and sitting still, can develop through exposure to cognitive tasks that are age-appropriate, social interactions, and secure parent-child relationships<sup>9,10</sup>. According to the literature, SR development is strongly influenced by parental or care giver involvement<sup>11</sup>. Strong SR behaviors are reinforced through paying attention, following rules and taking turns<sup>3</sup>. Additionally, children who display higher levels of these skills are better engaged in school and, therefore more academically successful, and have better social competence and peer relationships<sup>12</sup>. For example, children who develop SR skills earlier are more likely to complete high school and college<sup>13</sup>. Finally, children who have better academic outcomes tend to have had higher SR skills, which further supports a correlation between SR and academic outcomes<sup>14</sup>. In comparison, children who fail to develop early SR skills are impacted throughout their adult life and display poorer academic performance, unemployment, and delinquency<sup>14,15</sup>.

## Significance

The prevalence of children lacking SR skills is demonstrated by numerous studies<sup>2,16,17</sup>. For example, Rimm-Kafman, Pianta, and Cox (2000) reported nearly half of children entering kindergarten were lacking in basic SR skills such as following directions and taking turns as rated by 46% of teachers in the United States of America<sup>18</sup>. From an economic perspective, early intervention during childhood is cost-effective and more beneficial than corrective interventions later in life<sup>19</sup>. Several longitudinal studies have demonstrated the impact of early interventions<sup>20,21</sup>. A birth cohort of 1,037 children followed by Moffit et. al., (2011) for 32 years

demonstrated significant correlations between SR and long-term effects of SR on three specific domains: 1) adult health, including substance dependence ( $r=1.186$ ,  $P=0.012$ ) 2) wealth, including single-parent families ( $r=1.479$ ,  $P=0.003$ ) and, 3) crime, including convictions ( $r=1.714$ ,  $P<0.001$ )<sup>20</sup>. SR was assessed using reports from parents, teachers and researchers regularly throughout childhood starting at age three. Children with higher levels of SR were shown to have lower levels of substance abuse, struggled less financially, and were less likely to be convicted of a criminal offence later in life<sup>20</sup>. The results of their study showed that strong childhood SR had a positive, longitudinal impact on all three of these categories and highlights the importance of identifying high-risk children for the implementation of SR interventions to prevent negative outcomes later in life.

## The Role of Media

Although early childhood development and SR interventions have been gaining momentum throughout North America since the 1960s, many children remain at risk for poor SR<sup>22,23</sup>. For example, children who grow up in economically disadvantaged homes are at a greater risk for poor academic outcomes, such as dropping out of school<sup>24</sup>. In order to generate public interest in early childhood development and SR, current parent perceptions and attitudes need to be determined. Mass media has been shown to play a substantial role in defining societal issues and providing health information to parents<sup>25,26,27</sup>. The media aims to present societal concerns in a certain way to reduce complexity and provide information for an audience to consider<sup>25</sup>. Media outlets can include newspapers, magazines, television, and the Internet. In fact, several studies have shown the impact of media messages promoting healthy behaviors on parent behaviour<sup>28-32</sup>. For example, one cross-sectional study reported 18% of parents were prompted to change a medical decision based off medical information located online<sup>33</sup>. Furthermore, media sources have the advantage of being easily accessible to parents and can assist parents with recognizing warning signs about behavioral problems<sup>29,32</sup>. Parenting magazines are particularly useful for targeting a specific population because of their placements in doctors offices<sup>35</sup>. These media resources are a source of knowledge and advice and often shed light on

norms of parenting experiences.

On the other hand, information distributed by the media may be inaccurate<sup>36,37</sup>. For example, websites often lack references and peer-review and can present conflicting descriptions of health messages<sup>38,39</sup>. Furthermore, Randolph and Viswanth (2004) emphasized the importance of identifying media messages already in existence because of their influence on how new information is perceived<sup>40</sup>. Therefore, the **purpose** of this study was to examine how three Albertan magazines framed the issue of early childhood development and SR in the last five years and whether the information is consistent with the scientific literature.

Based on the literature, SR has the potential to have both positive and negative outcomes on children's lives. The information gained from this study will be used to determine how SR is presented to parents in a subset of Albertan parenting magazines and how parents are encouraged to translate and foster these skills to their children. This will be used to communicate with policy makers in regards to the development and modifications of current interventions in place.

This study was part of a larger study designed to identify factors related to child development and SR. The larger study collected data from the All Our Babies (AOB) cohort in order to determine predictors for SR until age 3 and will use this information to develop a screening tool. The AOB study is an established longitudinal pregnancy cohort in Alberta, Canada with data from over 3,000 pregnant women. This prospective birth cohort from Calgary, Canada used survey data from over 3,000 women to identify perinatal outcomes in women less than 35 years of age<sup>41</sup>. This media analysis will complement the development of the screening tool to inform knowledge mobilization and communication strategies.

## Methods

An environmental scan was undertaken to understand how SR is presented to Albertan parents. Environmental scans are often used to highlight information and examine the current status of topic<sup>42</sup>. They involve the systematic collection of data and enable review of a diversity of information about a topic<sup>43</sup>. Once the scan was completed,

the data was analyzed and then a composite list of themes was created from the results.

## Data Collection

A scan of Albertan parenting magazines including Calgary Childs Magazine (CCM), Apple Magazine, and Red Deer Childs Magazine (RDCM) was conducted using publically available archives from the previous 5 years (January 2010-January 2015). These resources were selected because they are free, widely distributed, and readily available sources of information used by parents. The scan was restricted to the Albertan magazines printed in English published between January 2010 to January 2015. The time frame was chosen because of the time restriction of the honors project. Key words included self-regulation, and school readiness. Interchangeable synonyms were identified with the help of a librarian and also used in the scan (Table 2). The relevant articles were considered only if they discussed SR or related synonyms. For example, if the articles discussed how to prepare children for preschool, emotional or behavioral regulation, or how to cope and remedy behavioral issues or similar themes they were included. Articles were excluded if they discussed any of these themes in regards to teens or adults.

The magazines included 15 issues from Apple Magazine, 30 from CCM, and 25 from RDCM for a total of 70 magazines all-together. The magazines were chosen to reflect diversity in Albertan media as well as by readership. The magazines were all accessed electronically using the public websites and archives of the respective magazines.

A dynamic search strategy was utilized where one research student thoroughly read each article from every magazine. This was done to familiarize the researcher with the terms used by the magazines. A word search was then done to search for interchangeable words and each relevant article was read to determine the context. The scan was conducted from December 2014 to January 2015. The researcher (ZV) scanned through the individual articles, as well as the titles, and photo captions. Key words were highlighted and the article set aside for a more in depth analysis.

Magazine	Readership	Age Group(yr)	Publishing
CCM	Excess of 150,000	25-44	6/yr ±23.5
Apple Magazine	130,000	25-65	4/yr
RDCM	No data	-	6/yr

**Table 1:** *Demographics of Three Albertan Parenting Magazines: Calgary Childs Magazine, Apple Magazine, and Red Deer Childs Magazine.*

Key Words	Interchangeable synonyms
Self-regulation	Behavioral problems, emotional control, tantrums, inattention
School readiness	Preschool readiness, resiliency

**Table 2:** *Key terms and definitions associated with SR that were used in the environmental scan, conducted between December 2014-January 2015.*

## Analysis

A textual analysis was used to analyze the data<sup>44,45</sup>. One researcher (ZV) inductively coded the articles and debriefed with a senior research assistant (JS or HB) to identify similarities between concepts. Initial themes were developed by recording the context of each of the key words in an excel document. Once every magazine and article was read, a second reading was done on the articles containing the key words to ensure rigor. One researcher (ZV) identified similarities in themes by the context of each article and grouped them together. Once new themes stopped emerging, the number of articles in each category then determined major themes. Weekly meetings were conducted with a senior research assistant (JS) in order to incorporate feedback on organizing themes. Additionally, debriefing was used to determine which themes were shown to be of most importance in the parenting magazines. Alternative strategies to organizing data were considered as well.

## Results

During the five-year period of January 2010 to January 2015, SR was specifically mentioned in only CCM in 3 issues out of the 70 issues scanned. In all 3 issues, SR was referred to as self-control. Behavioral regulation and emotional control were more commonly used to describe SR as compared to directly mentioning SR, and were used more frequently in Apple Magazine and CCM compared to RDCM. The environmental scan of parenting magazines shows Albertan media, specifically CCM, describes building emotional control and

strategies for managing emotional outbursts on average 6.8 times per year. Comparatively, early childhood development and its impact on long-term consequences of SR development were mentioned only in Apple Magazine at least once per year from 2012 to 2014. Two articles were excluded from the analysis because they discussed serve and return exchanges in teens and adults. Three major themes were discovered from the data: parental role in the development of SR, disciplining children, and parental guides in response to tantrums.

### Theme 1: *Parental Role in the Development of SR*

Apple Magazine focused on parental interactions to maximize cognitive development and the promotion of SR. In the Fall 2012 issue of Apple Magazine, Serve and Return described interactions that were used by parents to communicate with their children<sup>46</sup>. The phrase was found in 10 separate articles within Apple Magazine, and referred to exchanges between parents and children that are used to strengthen brain development<sup>46</sup>. These exchanges were described to promote healthy brain development in babies and children and were said to impact future mental and physical health. They included gestures and sounds that are made by the parent in response to the child, for example, smiling, signing, or talking<sup>47</sup>. Additionally, these relationships are essential in fostering emotional control and regulation. Early brain development was also described as having a role in emotional regulation and healthy development later in life. Two articles from Apple mentioned screen-time as a poor substitute for serve and

return interactions, and stressed the important of face-to-face interactions<sup>48,49</sup>. Reading to children was a common interaction suggested in all three media sources. Apple Magazine stated reading would help develop emotional and cognitive skills, while CCM also mentioned reading to children to help build skills that would prepare them from preschool<sup>50-52</sup>. Finally, RDCM mentioned reading to children to help develop literacy skills, and emotional intelligence for academic success<sup>53,54</sup>.

## **Theme 2: *Building discipline in a way that encourages the development of SR***

The second major theme from the textual analysis was how parents should discipline children in order to foster positive development of SR. CCM described disciplining as a dynamic process that involved recognition of age, skill, ability, and experience<sup>55</sup>. From the 31 issues of CCM, 15 articles focused on strengthening discipline. One method described by CCM to promote effective discipline was Time ins. Similar to time-outs, time ins encouraged parents to extract children from a stressful situation so that they could reflect on their behavior. This method strives to help children regulate their behavior supportive and nurturing environment<sup>56,57</sup>. It was described by CCM as a strategy to calm children down and remove themselves from emotional situations. The children are encouraged to retreat to a place of their own choosing, rather than of the parents choosing to regain control of their emotions. The method is not a punishment and encourages children to focus on their emotional control so they can return to the present. Only one article from Apple Magazine described discipline, where The Positive Discipline Program (PDP) was referenced as an alternative to physical punishment<sup>58</sup>. Similar to the strategies proposed by CCM, The PDP encourages parents to let their children solve problems, rather than resorting to punitive methods which can include physical punishment or shaming.

## **Theme 3: *Tantrums***

Parents reactions to tantrums and the loss of emotional control was the third major theme. Eight articles from CCM referred to tantrums and how parents should focus their attempts to control and react to tantrums. Apple Magazine and RDCM

mentioned tantrums in one article each. Apple Magazine focused more on emotional regulation rather than tantrums. For example, talking about and accepting feelings were methods cited to help childrens emotional development<sup>59,60</sup>. CCM also described tantrums as legitimate ways for children to express emotions. Apple Magazine, CCM and RDCM all suggested tantrums and emotional dysfunction could result as a consequence of stress<sup>61-63</sup>. On the other hand, CCM also suggested tantrums could be caused by a desire for the child's control, or inability to express or control their emotions<sup>64</sup>. Several approaches of coping with tantrums were discussed in CCM, including: offering choices, showing empathy, and preventative approaches<sup>65</sup>. Finally, CCM stressed the importance of avoiding child shaming in order to avoid damaging the relationship with children<sup>56,66</sup>.

## **Discussion**

In this study using a textual analysis, we examined how Albertan parenting magazines described SR. Parenting resources such as websites and magazines reach hundreds of thousands of viewers each month<sup>67,68</sup>. Another study showed 97% of mothers related to the content in parenting magazines, and 90% of mothers trusted the information<sup>69</sup>. Our findings showed that the information presented in three parenting magazines accurately described how parents could encourage and foster the development of strong SR skills in their children, and was consistent with the information in the literature.

## **Responsive Parenting**

SR, as defined by the literature, is a construct referring to the way children control and express their emotions, attentions, and interactions with their environment<sup>3,4</sup>. The findings from this study show SR is accurately defined by a subset of Albertan parenting magazines as a form of emotional control that is influenced by parental interactions. Responsive parenting or Serve and Return interactions are predictive factors in determining childrens future emotional regulation<sup>70</sup>. Apple Magazine focused heavily on these Serve and Return interactions, and strongly encouraged parents to communicate in multiple forms with

their children. These interactions involve responsive parenting, where parents are encouraged to sing, talk, read, or communicate with children and have been shown to be an important contributors to emotional regulation<sup>71</sup>. For example, Kim and Kochanska (2012) found children who experienced responsive parenting and had better relationships with their parents had higher levels of SR<sup>72</sup>. Recent analyses using local Albertan data show that daily parent-child interaction in the form of reading or imitation play was protective for early developmental delay at 1 year of age (McDonald; unpublished data).

## Parenting Styles

In addition to responsive parenting, parenting styles are strongly correlated to childrens development and are well documented in the literature<sup>6,73</sup>. There are multiple styles of parenting, as described by Baumrind (1966): authoritative, authoritarian, permissive, and rejecting/neglectful<sup>74</sup>. Authoritative parents are characterized by warmth, responsiveness, acceptance, and support, while authoritarian parents are less likely to use warmth and exercise the authority more strongly than authoritative parents<sup>73</sup>. Permissive parents are the least demanding, and show higher levels of acceptance with their children and rejecting/neglecting parents have lower warmth and responsiveness<sup>73</sup>. Most studies regard authoritative as being the most beneficial, although the literature shows mixed results over the development of SR and the level of control parents exercise<sup>75,76</sup>. Although not specifically mentioned in any of the parenting magazines, authoritative parenting was highly encouraged by Apple and CCM.

One component of authoritative parenting styles was the disciplinary tactics employed by parents. Positive discipline is method designed to build constructive, supportive relationships between parents and children. The method focuses on using alternative strategies such as encouragement, communication, and acknowledgement of positive behaviors, to discipline without resorting to punitive methods. Childrens behavioral responses and parental self-efficacy were shown to improve when parents limited punitive disciplinary tactics, and instead, used positive responses such as encouragement<sup>77</sup>. For example, time-outs were cited as a common strategy employed by parents, but CCM described them as an ineffective method that deals

only with overt, behavioral issues, but disregards the covert, underlying issues. Furthermore, this leads to power struggles and does not effectively discipline children. Alternatively, Time-Ins are not used as punishments, but are used to help children remove themselves from a situation while experiencing heightened emotions. This procedure focuses on the needs of the child, and allows parents and children to engage in problem solving skills to deal with conflict. Consequently, children who are exposed to authoritative parenting styles are more likely to have heightened SR skills<sup>73,78</sup>.

## Emotional Breakdowns

One of the key indicators that demonstrate strong SR is being able to cope with heightened emotions. Although studies suggest that nearly 85% of preschoolers have emotional breakdowns, frequent tantrums can be indicative of developmental issues<sup>79</sup>. Gross et. al., (2003) showed that children who experience difficulty regulating emotions are at risk for negative outcomes later in life<sup>77</sup>. Conversely, Eisbach et. al., (2014) stated tantrums and emotional outbreaks are considered normal developmental processes<sup>80</sup>. Apple Magazine stressed the importance of role modeling and handling emotional breakdowns with tenderness and warmth, rather than reacting negatively and raising voices. Similarly, CCM also suggested the use of empathy, rather than disregarding their feelings. Therefore, parents who are emotionally supportive are at an increased likelihood of promoting SR development in their children<sup>81</sup>. Finally, despite the large body of research highlighting the importance of early childhood development, only Apple Magazine described the long-term impacts of building strong SR skills in children. These were only discussed in one issue per year during 2012-2014. For example, in the Fall 2012 issue, Apple mentioned that early experiences are critical in brain development and can be significant in contributing to healthy lives<sup>82</sup>.

In summary, the information presented by the Albertan parenting magazines was consistent with the information in the literature on the impact of parental influence on the development of SR. Both have highlighted the importance of modeling and using authoritative, supportive parenting, rather than punitive methods to strengthen SR. Increasing parents knowledge of SR development

in their children and highlighting the importance of supportive strategies such as daily interaction, especially among those who are at risk for poor development, can have far-reaching effects. Increasing awareness will present parents with opportunities to address issues with SR earlier rather than later.

## Limitations

Although all attempts to use the best practices of textual analysis were performed, this study was limited by several factors. The primary limitation was the time restriction enforced by the Honors class, which prevented the analysis from including more media recourses from national or internal sources. Finally, the validity of this study was threatened by having only one researcher identify themes. This was mediated by debriefing held with two senior researchers.

## Conclusion

This scan of Albertan parenting magazines suggests that the freely available information for parents does include identification of SR issues and provides effective strategies to optimize development. This media analysis showed that Albertan magazines do not sufficiently highlight the importance of long-term implications of early childhood development of SR. This suggests that most Albertan parents may not be aware of the consequences of underdeveloped SR skills. Future research endeavors should focus on including more media resources such a YouTube, radio interviews, and television programs as well as increasing the scope of the scan to a national or international level. This would provide more comprehensive data on how SR is presented to the public on a larger scale. Finally, the information gathered from this study will be used to communicate with stakeholders on what information is publically available to parents, as well as how current interventions being used to build strong SR can be evaluated to meet the needs of the population. This will then be used to evaluate the current programs that are being used to promote SR to children.

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