

UP Scholars Undergraduate Journal of Psychology

www.upscholars.com

Volume 1, Issue 2, 2017

Paper was accepted for publication on 8/1/2017 and finally edited on 10/1/2017

Action Editor: Sara Dowd

This article was reviewed by:

Sara Dowd and Kyle Dickey: A&M, Texas Graduate Program of Clinical Psychology

Thanks to:

Liz Collins of Hawthorn Creative: Branding, Graphic design & Web Development

Author's Note: Questions regarding this paper can be directed to Ms. K. Cappetta at klc2172@barnard.edu.

All rights are reserved by Up Scholars.

Age and Emotion in Self-Schema Narratives Related to Everyday Problem Solving

Kiley Cappetta

Barnard College – REU Baruch College

Daniele Artistico, Ph. D

Baruch College

Matthew Liu

REU Baruch College

Karol Trochez

Hunter College of the City University of New York – REU Baruch College

Margia Shiriti,

REU Baruch College

Abstract

We explored the impact of self-schemas on everyday problem solving among young and older adults. Specifically, we analyzed data from self-reported narratives describing participants' personal strengths and weaknesses as they help, or hinder, solutions to everyday problems. Narratives were coded for high and low frequency of both positively and negatively self-relevant words. No significant differences were found between age groups with regard to frequency of emotionally positive or negative words in either strength or weakness narratives. Further investigation into the relationship between affect, self-schemas, and everyday problem solving may contribute to a better understanding of qualitative differences in emotion regulation throughout adulthood.

Keywords: Everyday Problem Solving, Idiographic Assessment, Emotion, Narratives, Self-Schemas

Age and Emotion in Self-Schema Narratives Related to Everyday Problem Solving

Over the past few decades, developmental psychology research has demonstrated that it is possible for adults of all ages to remain engaged, purposeful, and adaptive in their day-to-day lives (Blanchard-Fields, 1996; MacPherson, Phillips, & Della Sala, 2002). By using their everyday problem-solving skills, adults solve routine life matters generally called everyday problems. Everyday problems can be categorized as instrumental (e.g., paying bills) or interpersonal (e.g., alleviating tension with a coworker). Of importance, studies have indicated qualitative age differences in the domain of everyday problem solving (Charles, Reynolds & Gatz, 2001; Mroczek & Kolarz, 1998; Riediger, Schmiedek, Wagner & Lindenberger, 2009). Some studies show that older adults will respond to emotionally demanding situations with emotion-regulation strategies more than younger adults (Blanchard-Fields, 1995).

Blanchard-Fields (1996) theorized that matured emotional regulation in older adults contributes to adaptive structuring or strategy selection in everyday problem-solving. In fact, emotional experience tends to become more of a regulatory mechanism as individuals mature (Carstensen et al., 2000; Carstensen, et al., 2011). Carstensen et al. (2000) demonstrated a positive relationship between age and stability of highly positive emotional states, which the authors suggest to be an objective measure in support of older adults' well being and psychological adaption to life stressors. Carstensen et al. (2011), however, found also a mixed cluster in the emotional experience of the older adults, which was defined as poignancy (i.e. a smile with a tear in the eye in response to positive stimuli). They believe such poignancy to also contribute to the higher sense of emotional wellbeing older adults report in the face of day-to-day problems. This holds as true because poignancy allows one's flexibility of expectations (i.e., things don't always work out the way you plan) and self-acceptance when things don't work as planned (i.e. through a negative outcome I can learn a bit more about myself).

These findings clearly harbingered a complex depiction of the quality of matured emotional regulation among older adults. In older adulthood, however, different individuals, of course, would experience emotions differently. As Cervone 2005 has noted, to better understand if individual differences might play a role in adulthood and emotion regulation one would need an appropriate framework to the study of idiosyncrasies. Thus we applied to these age-related findings in everyday problem solving, a framework which directly explains person-to-person variations or idiosyncrasies, called the "Knowledge and Appraisal Personality Architecture" – KAPA (Cervone, 2005).

Extant literature on the KAPA model shows that an individual's sense of confidence can be explained by a complex multilayered interaction between one's awareness of self-schemas

and the appraisal of challenging situations in which self-schemas are relevant. The KAPA model draws upon an idiographic assessment. Key to the model is the attention on the importance of an individual's narratives (i.e. points of personal strengths and weaknesses) to describe their personality. KAPA has been significantly found to relate individuals' personal points of strength and weaknesses to everyday problem-solving abilities (Artistico & Rothenberg, 2013). To date, qualitative age-related differences in the experience of emotions have yet to be explored in the context of everyday problem solving and KAPA. These differences would seem utterly important to adults' emotion regulation.

In our study, we examined the relationship between age and emotion in self-schema narratives. We did so by relating idiographically identified strengths and weaknesses to specific everyday problems. Inspired by Carstensen et al.'s (2000) study, emotion will be compared between two groups: one of younger adults (18 and 29 years of age) and another one comprised of older adults (60 years of age or older). The present study hypothesized that in the context of everyday problem solving (1) younger adults will have a higher frequency of negatively self-relevant words in self-schematic narratives of weakness as compared to older adults; (2) older adults will have a higher frequency of positively self-relevant words in self-schematic narratives of both strength and weakness as compared to younger adults; and (3) older adults will demonstrate a higher rate of poignancy than younger adults.

Methods

Participants

Forty-one participants were recruited from the greater New York City area. Eligibility requirements for the original study included being ≥ 18 years of age, and fluent in English. Our sample was comprised of 28 younger adults (18-29 years of age) and 13 older adults (60+ years of age). Sample demographics are reported in Table 1.

Procedure

An experimenter explained the instructions to participants individually. Participants were asked to give their consent in writing to be part of this research. All recruited individuals gave their consent to participate. Participants worked alone either at their domicile or in a research lab. Their sole task for this study was to write a semi-structured essay about themselves, called "narrative."

TABLE 1: Sample’s Demographic Characteristics

	Young (<i>N</i> = 28) Mean (<i>SD</i>)	Old (<i>N</i> = 13) Mean (<i>SD</i>)	
Age (years)	23.68 (2.54) Range = 21-29	73.08 (9.74) Range = 60-92	
Gender			
Male	53.8%	25.0%	$\chi^2 = 3.78$
Female	46.2%	67.9%	
Other	-	7.1%	
Ethnicity			
Caucasian	39.3%	76.9%	$\chi^2 = 7.11^*$
Asian	25.0%	23.1%	
Hispanic	35.7%	-	

* $p < 0.05$

Narrative

We asked our participants to write an essay-like paragraph, describing personal characteristics that might facilitate (or hinder) the resolution of their day-to-day problems. Specifically, KAPA researchers (see Cervone, 2004 for an overview or Artistico & Rothenberg, 2013) have previously validated a subsequent step-by-step procedure to complete the narrative task. As a first step, participants were invited to rank their self-reported personality characteristics and instructed to choose a word or a short sentence to describe their most significant personal point of strength and most significant personal point of weakness. 20 participants were first asked to write about a personal strength (followed by a personal weakness), whereas 21 participants were first asked to write about a personal weakness (then about a personal strength). Secondly, we asked participants to rank their selections as far as their top three choices. As a final step, participants explained in one short sentence why of their first choice. For the scope of the narrative analysis, we looked at the whole paragraph written by our participants regardless of their subsequent selections.

Narrative Analysis

We drew upon participants' spontaneous use of positively and negatively self-relevant words to code their narrative. To this end, independent coders recorded the frequency of positive and negative words utilizing a word list validated in previous studies in each narrative (Sereno et al., 2015; Appendix). Raters endorsed words in a narrative, in four separate coding categories: 1) strength-positive, 2) strength-negative, 3) weakness-positive, and 4) weakness-negative. The scoring was 1 for presence 0 for absence of the Sereno et al.' code. Coders were blind to participants' information, and importantly with regard to the participants' age group.

Results

χ^2 tests indicated a significant difference between groups with regard to participants' ethnicity ($2, N = 41$) = 7.11, $p < 0.05$. Levene's test indicated unequal variances for Strength-Positive ($F = 10.07, p = 0.00$), Strength-Negative ($F = 4.93, p = 0.00$), and Weakness-Positive ($F = 3.741, p < 0.05$). To account for inequality of variances and unequal sample sizes between age groups, a Welch test was employed and revealed no statistically significant differences between ethnic groups on any dependent measures.

Shapiro-Wilk's test indicated non-normal distributions for age among younger adults as well as Strength-Positive, Strength-Negative, Weakness-Positive, Weakness-Negative ($p < 0.01$). Variance was homogenous for each of the 4 narrative-valence categories. Group means were compared using the Mann-Whitney U statistic to account for non-normal distributions (Figure 1).

Strength and weakness self-schema narratives were rated for the participants, although only a small percentage (15%) of the 328 words were used overall. With regard to frequency of negative words in weakness narratives, no significant mean differences were found between younger and older adults ($U = 168, z = -0.509; n.s.$). Age groups did not differ in terms of frequency of positive words in strength ($U = 159, z = -0.787; n.s.$) or weakness ($U = 164.5, z = -0.684; n.s.$) as reported in their narratives.

Poignancy was calculated as a correlation between total frequencies of positively and negatively self-relevant words taken from both strength and weakness narratives (Carstensen et al., 2000). As previous analyses had established non-normal distributions for many variables of interest, Spearman's rho (ρ) correlation was used because it does not rely on the assumption of normally distributed data. No significant differences in poignancy were found between age groups for either personal strength ($z = -0.54, n.s.$) or weakness ($z = 0.36, n.s.$) narratives (Figure 2).

* $p < 0.05$

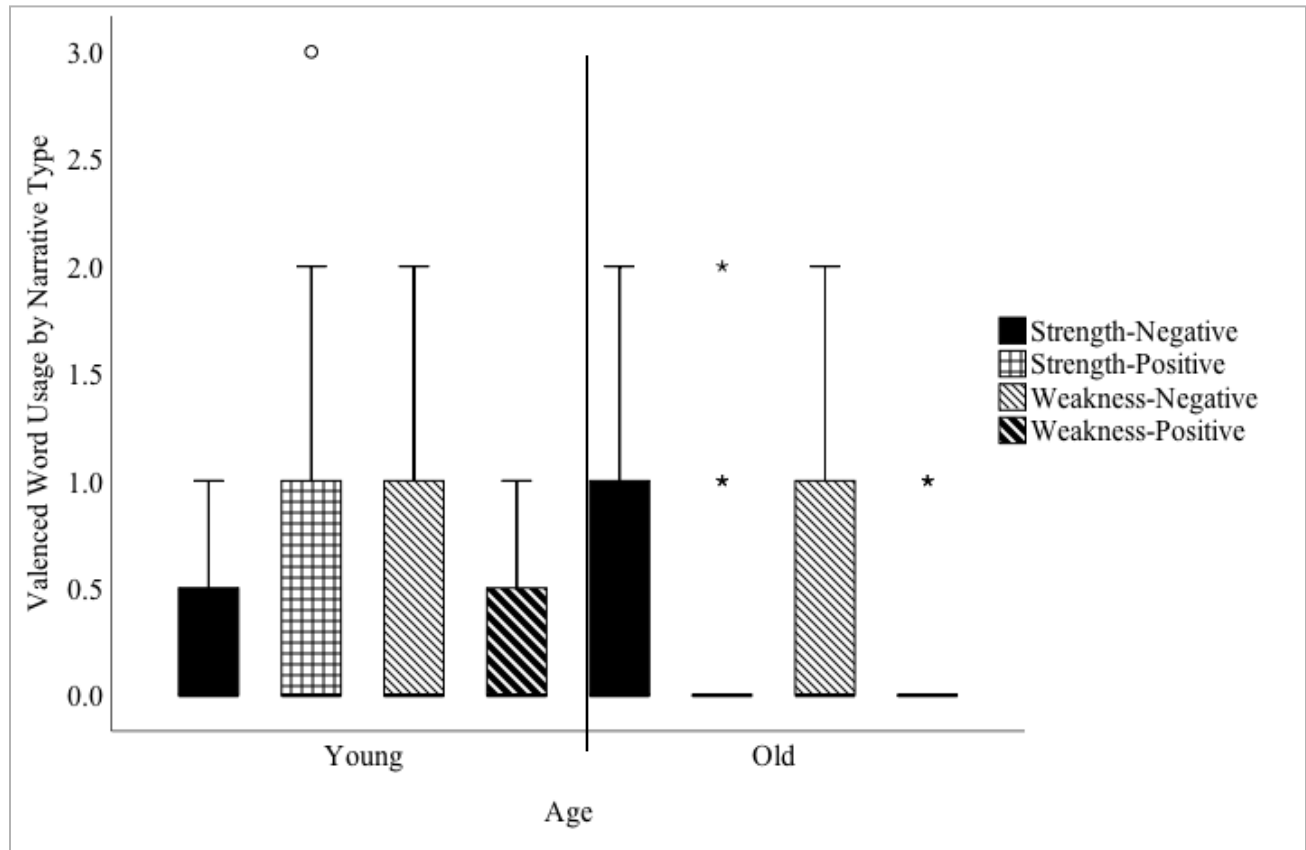


Figure 1. Average word usage by narrative type plotted as a function of age. Columns indicate average use of emotionally relevant words, error bars indicate standard errors of the mean, * indicates outlier, and ° indicates extreme outlier.

Further analysis indicated that there was a moderate, positive correlation between the use of positively relevant words in strength and weakness narratives ($r_s(39) = 0.356, p < 0.05$). Among older adults, the strength of this relationship seemed to have increased, although it did not reach statistical significance ($r_s(11) = 0.695, p < 0.08$). Similar correlations were not found for younger adults.

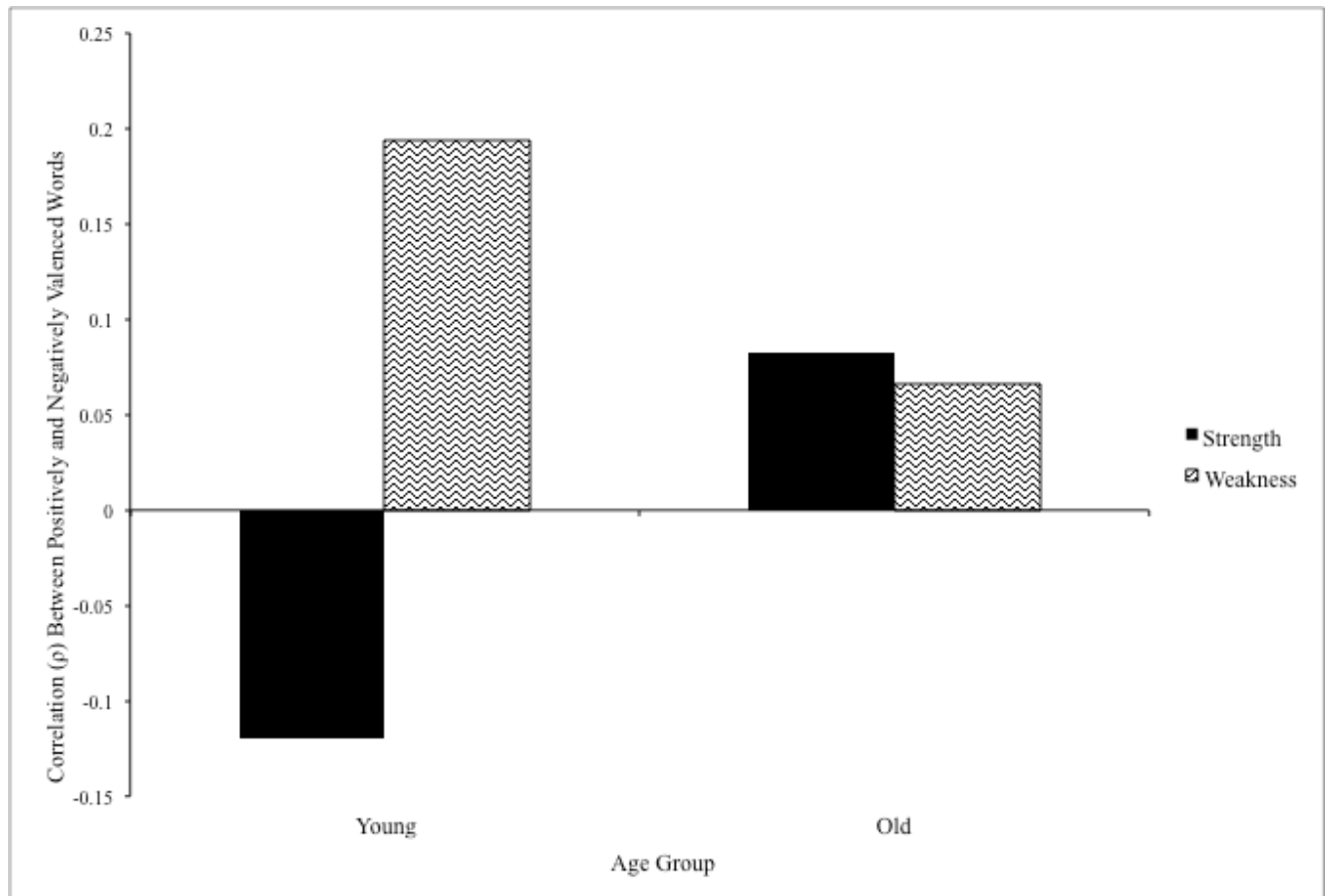


Figure 2. Spearman's rho (ρ) correlation between positively and negatively self-relevant words plotted as a function of age group for self-schematic strength and weakness narratives. Columns indicate correlation (ρ) between positively and negatively self-relevant words.

Discussion

The current study sought to illustrate, using a qualitative approach, the relationship between everyday problem solving and emotion in self-schemas – a relation that had not yet been explored in a cross-sectional sample of adults. It was hypothesized that in the context of everyday problem solving (1) younger adults will have a higher frequency of negatively self-relevant words in self-schematic narratives of weakness as compared to older adults; (2) older adults will have a higher frequency of positively self-relevant words in self-schematic narratives of both strength and weakness as compared to younger adults; and (3) older adults will

demonstrate a higher rate of poignancy than younger adults. None of these hypotheses were supported by the qualitative methods and analyses proposed by the present study.

Further analyses suggest a statistically significant positive correlation between the use of positive words in strength and weakness narratives. This relationship was more pronounced in older adults, demonstrating a trend towards statistical significance. Studies have reported that older adults exhibit less intra-individual variability in affect levels and that their positive emotional experience appears to be more stable (Carstensen et al., 2000; Röcke, Li & Smith, 2009). Therefore, it is reasonable to hypothesize that the correlation between positive affective language in positive and negative self-schema narratives occurs as a result of refined emotional regulation and stability of positive affective states.

Lifespan researchers have sought to understand the idiographic factors that contribute to adults' capacity to resolve daily problems (Berg & Klaczynski, 2002). Blanchard-Fields (1996) asserts that qualitative changes can be seen throughout the process of aging in the domain of everyday problem solving as a result of developing skills, such as emotion regulation strategies. Previous research examining adult emotional development has regarded the contrast in frequency of self-reported positive and negative affect as an indication of significant difference in emotional experiences among younger and older adults (Carstensen et al., 2000).

In the broader context of emotional regulation, different research methodologies have yielded inconsistent results with regard to changes in affective levels across the lifespan. Carstensen et al. (2000), from which the current analysis is largely adapted from, employed ecological momentary sampling (EMS) – a method where participants provide self-report from their natural environment at random times, as prompted by a buzzer – over the course of one week and found a positive trend between positive affect and age. Other laboratory-controlled studies have reported no differences between younger and older adults with regard to average positive and negative affective levels (Röcke, Li & Smith, 2009). In addition to differences in setting, EMS allows for the collection of data at multiple time points, providing a larger sampling of emotions.

The largest limitation to the present qualitative analysis was its reliance on the use of emotionally relevant language as a method for measurement. Since each participant's report was scored in 4 categories, there were a total of 328 possible ratings; however, only 15% fell within the guidelines of the coding scheme and were included for analysis. Beyond the issue of a small sample size, this method led to a non-normal distribution and unequal variances across a number of the rating categories. While the current study does not suggest substantial differences between younger and older adults with regard to emotion in self-schemas related to everyday problem solving, these results should be interpreted cautiously. Future research

should work towards developing more effective guidelines for evaluating the role of emotion and self-schemas in everyday problem-solving. As studies continue to replicate the qualitative changes in emotion regulation between younger and older adults, it is possible that further investigation will elucidate a nuanced understanding of emotional development throughout the lifespan.

References

- Artistico, D. & Rothenberg, A. (2013). Assessing strengths and weaknesses in solving work problems: A knowledge and appraisal personality architecture (KAPA) analysis of the trait conscientiousness and self-efficacy. *International Journal of Psychological Studies*, 5, 84-97.
- Berg, C. A. & Klaczynski, P. A. (2002). Contextual variability in the expression and meaning of intelligence. The general factor of intelligence: How general is it? (381-412). Mahwah, NJ: Lawrence Erlbaum Associates.
- Blanchard-Fields, F. (1986). Reasoning on social dilemmas varying in emotional saliency: An adult developmental perspective. *Psychology and Aging*, 1, 325-333.
- Blanchard-Fields, F. (1996). Emotion and everyday problem solving in adult development. *Handbook of Emotion, Adult Development, and Aging* (149-165). Cambridge, MA: Academic Press.
- Bradley, M.M., & Lang, P.J. (1999). *Affective norms for English words (ANEW): Instruction manual and affective ratings*. Technical Report C-1, The Center for Research in Psychophysiology, University of Florida.
- Carstensen, L. L., Pasupathi, M., Mayr, U., & Nesselroade, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, 79(4), 644-655.
- Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., Brooks, K. P., & Nesselroade, J. R. (2011). Emotional experience improves with age: Evidence based on over 10 years of experience sampling. *Psychology and Aging*, 36, 21-33.
- Cervone, D. (2004.) The architecture of personality. *Psychological Review*, 111, 183-204.
- Cervone, D. (2005). Personality architecture: Within-person structures and processes. *Annual Review of Psychology*, 56, 423-452.
- Charles, S. T., Reynolds, C. A., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality & Social Psychology*, 80, 136-151.
- Cornelius S. W. & Caspi A. (1987). Everyday problem solving in adulthood and old age. *Psychology and Aging*, 2(2), 144-153.
- Gross, J. J., Carstensen, L. L., Pasupathi, M., Tsai, J., Gotestam-Skorpen, C., & Hsu, A. (1997). Emotion and aging: Experience, expression and control. *Psychology and Aging*, 12, 590-599.

- Kuiper, N. A., Olinger, L. J., & Martin, R. A. (1990). Are cognitive approaches to depression useful? In C. D. McCann & N. S. Endler (Eds.), *Depression: New directions in research, theory, and practice* (53-76). Toronto, ON: Wall & Thompson.
- Labouvie-Vief, G., Hakim-Larson, J., & Hobart, C. J. (1987). Age, ego level, and the life-span development of coping and defense processes. *Psychology and Aging, 2*, 286-293.
- Lawton, M. P., Kleban, M. H., Rajagopal, D., & Dean, J. (1992). Dimensions of affective experience in three age groups. *Psychology and Aging, 7*, 171-184.
- MacPherson, S. E., Phillips, L. H., & Della Sala, S. (2002). Age, executive function, and social decision making: A dorsolateral prefrontal theory of cognitive aging. *Psychology and Aging, 17*, 598-609.
- McFall, J. (2010). *Effectiveness of strategies for solving everyday problems during early and later adulthood: A reexamination of the everyday problem solving inventory*. (Unpublished doctoral dissertation). West Virginia University, West Virginia.
- Mroczek, D. K., & Kolarz, C. M. (1998). The effect of age on positive and negative affect: A developmental perspective on happiness. *Journal of Personality & Social Psychology, 75*, 1333-1349.
- Röcke, C., Li, S., & Smith, J. (2008). Intraindividual variability in positive and negative affect over 45 days: Do older adults fluctuate less than younger adults? *Psychology and Aging, 24*(4), 863-878.
- Riediger, M., Schmiedek, F., Wagner, G. G., & Lindenberger, U. (2009). Seeking pleasure and seeking pain: differences in prohedonic and contra-hedonic motivation from adolescence to old age. *Psychological Science, 20*, 1529-1535.
- Sarason I. G., Johnson J. H., Siegel, J. M. (1978). Assessing the impact of life changes: development of the life experiences survey. *Journal of Consulting and Clinical Psychology, 46*(5), 932-46.
- Sereno, S. C., Scott, G. G., Yao, B., Thaden, E. J., & O'Donnell, P. J. (2015). Emotion word processing: does mood make a difference? *Frontiers in Psychology, 6*, 1191.
- Thorton W. L., Paterson, T., & Yeung, S. E. (2012). Age differences in everyday problem solving: The role of problem context. *International Journal of Behavioral Development, 37*(1), 13-20.

Appendix

Early Emotion Word Processing (Serenio et al., 2015)

Appendix: Low- and high-frequency (LF, HF) positive, negative, and neutral words

	LF			HF		
	<u>Positive</u>	<u>Negative</u>	<u>Neutral</u>	<u>Positive</u>	<u>Negative</u>	<u>Neutral</u>
nude	demon	hawk	fun	mad	odd	
lust	shark	cane	joy	gun	iron	
sexy	rude	muddy	car	war	book	
fame	rage	truck	win	fire	army	
alert	toxic	lump	joke	rape	tool	
champ	venom	swamp	gift	evil	bowl	
thrill	slap	boxer	sex	fight	wine	
cheer	snake	trunk	cash	pain	rock	
glory	devil	alien	kiss	crash	hide	
flirt	annoy	rattle	brave	hate	stiff	
dazzle	detest	limber	plane	bomb	clock	
casino	tumor	mystic	song	anger	rough	
riches	betray	salute	happy	angry	cold	
erotic	sinful	clumsy	heart	fear	hotel	
dancer	insult	vanity	talent	burn	bench	
aroused	scared	spray	quick	abuse	coast	
dollar	killer	invest	lucky	victim	paint	
elated	leprosy	icebox	couple	afraid	watch	
miracle	poison	insect	rescue	horror	fabric	
admired	hatred	hammer	engaged	tense	excuse	
orgasm	pervert	ketchup	pretty	bloody	yellow	
terrific	wicked	coarse	loved	guilty	patient	
intimate	destroy	custom	travel	cancer	manner	
reunion	intruder	trumpet	leader	trouble	glass	
ecstasy	outrage	radiator	passion	panic	journal	
treasure	torture	highway	desire	surgery	writer	
sunlight	hostile	whistle	holiday	danger	detail	
festive	disloyal	repentant	inspired	tragedy	gender	
graduate	terrified	privacy	memories	assault	shadow	

fireworks	assassin	scissors	progress	stress	teacher
adventure	ambulance	nursery	success	pressure	market
athletics	slaughter	pamphlet	laughter	confused	avenue
affection	nightmare	nonsense	birthday	divorce	medicine
valentine	humiliate	appliance	romantic	violent	contents
intercourse	jealousy	sheltered	exercise	accident	village
infatuation	cockroach	skeptical	promotion	disaster	passage
astonished	distressed	sentiment	surprised	rejected	context
triumphant	unfaithful	nonchalant	beautiful	nervous	material
millionaire	hurricane	thermometer	confident	suspicious	reserved
rollercoaster	suffocate	lighthouse	excitement	controlling	concentrate