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The Impact of Length of Stay on Adjudicated Male Youths;' Language Use: Focusing on Linguistic Analysis of Verbal Samples

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From 1995 to 2006, the number of incarcerated youth in Texas increased by 48% (Males, Stahlkopf, & Macallair, 2007). Multiple risk factors that may contribute to the likelihood of adolescents becoming juvenile offenders have been identified. Socioeconomic status, gang affiliations, substance abuse, the absence of healthy family involvement, and educational unpreparedness are social factors that are associated with adolescents' involvement in delinquent activities, which result in subsequent placement in correctional facilities (Fabelo et al., 2011; Gaskins & Mastropieri, 2010).

A number of state and private-run residential facilities in Texas treat youth offenders with severe offense records. To date, although a wealth of literature examines the risk factors for youth offenders, little is known about how male juvenile offenders reflect on their life experiences, their time in a residential facility, and the impact of their stay on self-perceptions and attitudes. The juvenile justice system focuses on reducing recidivism by implementing juvenile programs with varying degrees of effectiveness to meet this goal. Research has consistently found over time that these residential programs are costly and ineffective in many cases, indicating that the offenders experience high rates of re-offence and re-conviction after released from the facilities (Greenwood, Rydell, Abrahamse, Caulkins, & Chiesa, 1994; Texas, A. M, 2012). However, conducting outcome-focused research is difficult in these facilities (Jovilette, 2014) and outcome investigations tend to provide limited information about security and cost of programs (Winokur, Tollett, & Jackson, 2002). Examination of facilities alone is not sufficient to explain complex dynamics that account for an individual's behavior, attitude, and shifts in thinking that may occur within the particular context of juvenile residential programs (Abrams & Aguilar, 2005).

The present study examined the language use of adjudicated youth in a residential facility, as a means to understand the impact of length of residence on linguistic and cognitive or attitudinal expressions (Mehl & Pennebaker, 2003; Pennebaker, Mehl, & Niederhoffer, 2003). Language use was examined to understand the changes that take place by the length of stay, and interview interval. The study provides valuable information for professionals in the judicial system, or policy makers who are interested in determining optimal length of stay and effective programming for juvenile offenders in a residential facility.

Literature Review

In this section, the literature describing key issues typically associated with adolescents with juvenile offences is presented, including characteristics and recidivism of youth offenders, perceptions of incarcerated youth, interventions, and effectiveness of programs.

Characteristics and Recidivism Research

A review of the literature reveals several factors are associated with adjudicated youth who are placed in residential correctional facilities. Such factors include family variables such as single parent and "broken homes" (Gaskins & Mastropieri, 2010; Hawkins, Herrenkohl, Farrington, Brewer, Catalano, Harachi, & Cothern, 2000); poor parental attachments (Gault-Sherman, 2012), poor educational or school-related experiences (Barnert et al., 2015; Hawkings, Farrington, & Catalano, 1998), substance abuse, smoking, and aggressive behaviors (Calley, 2012; Noyori-Corbett, & Moon, 2010), and low socioeconomic neighborhoods (McVie & Norris, 2006). The literature indicates that investigations of adjudicated youth have focused primarily on the associated characteristics possessed by these youth, cost effectiveness of programs (Cowell, Lattimore, & Krebs, 2010; Teotelman & Linhares, 2011), and recidivism rates (Calley, 2012; Christiansen & Vincent, 2013; Ryan, Williams, & Courtney, 2013; Williams & Smalls, 2015). Few studies have focused on the

perceptions of youth, who are in juvenile correctional facilities, regarding their personal life situations, factors of their individual circumstances, or their treatment (Abrams, 2006; Mincey, Maldonado, Lacey, & Thompson, 2008). Investigations of juvenile offenders' perceptions on their circumstance and their treatment may yield valuable information for staff and professionals who work to improve the outcomes of the juvenile justice system (Abrams, 2006; Brooks & Roush, 2014).

Perceptions of Incarcerated Youth

Studies of the internal characteristics of adjudicated youth, associated environmental and family factors, program outcomes, and recidivism, include a variety of methods such as questionnaires, secondary data analysis, assessments of personality, and analysis of family factors. A deeper understanding of how and what youth are thinking and learning during residential placements may be better ascertained using qualitative analyses as well as descriptive or other quantitative analyses. For example, strong parental attachment has been found to be a mediating factor for negative external environmental factors (Gault-Sherman, 2012). Further knowledge may be gained from qualitative information obtained through interviews of adjudicated youth as to how their parental attachment promoted positive outcomes or how the lack of parental support played a role in their current circumstance.

Abrams (2006) conducted an ethnographic study that included interviews of juveniles in residential facilities. The focus of her work was on the perceptions of the residential treatment interventions and how these perceptions might provide insight about recidivism. This study was conducted at two different treatment facilities that used a levels system for the primary treatment structure. In this work, Abrams found that the youth in her study voiced comments indicating either "buy-in" about the therapeutic aspects of the treatment or comments indicating they were "faking it" or merely going through the motions until they would be released. Analysis of the interview information indicated that the youth,

who did not fully accept or buy into the treatment, were more likely to make comments indicating that avoidance was the primary reason they would not want to return. In other words, those who expressed acceptance of the program tended to have more set ideas and plans for the future so they would meet goals and not commit further criminal behavior; those who did not accept the treatment were more likely to voice that they would not commit further criminal behavior because they wanted to avoid being detained or locked up in the future.

Mincey, Maldonado, Lacey, and Thompson (2008) interviewed successful graduates or those who completed a juvenile detention placement. In this work, Mincey and colleagues found that successful youth tended to have goal-oriented ideas and expressed that they would seek to change their previous patterns of negative behaviors that resulted in adjudication. This work provided insight about what these youth were thinking upon their successful completion.

Interventions and Effectiveness

While many researchers have examined the impact of a broad array of juvenile justice interventions, few have focused exclusively on the effects of lengths of stay or duration of juvenile justice interventions on recidivism (Winokur, Cass, & Blankenship, 2002). There are various types of residential facilities that provide treatments for adolescents with behavioral, substance abuse or psychological issues aligned with educational support. As Ward (2004) cited, residential programs have their own rigid structure in which adolescent residents, who were typically exposed to abusive or neglectful environments, may feel uncomfortable and perplexed. Additionally, separation from familiar environments and potential misuse of disciplinary tactics used by facilities may possibly increase levels of anxiety in youth offenders (Wilmshurst, 2002). Therefore, it is necessary to examine the influence of the association among offenders' length of stay, treatment benefits, and optimum outcomes.

To date, few published studies of juvenile offenders' cognitive or attitudinal changes and the effectiveness of residential facilities are noted in the literature, which are based on the analysis of verbal reports of the youth (i.e., Abrams, 2006; Mincey et al., 2008; Tinklenberg, Steiner, Hunckby, & Tinklenberg, 1996). Previous studies applied interview techniques (Abrams, 2006; Mincey et al., 2008; Tinklenberg et al., 1996), but linguistic analysis has not been used to analyze data of these narratives. Research using linguistic analysis has found that some psychological processes including social, affective, and cognitive processes can be reflected or revealed by language use (Campbell & Pennebaker, 2003; Mehl & Pennebaker, 2003; Pennebaker, Mehl, & Niederhoffer, 2003). Hence, by analyzing verbal samples during the interview, this study explored the underlying common themes of language to achieve insight into the meanings of participants' responses and determine the functions of what they say within their particular context. The following research questions shaped the current research direction:

1. How does the length of stay impact language used by youth in a residential treatment facility across all the variables of the psychological processes (social, affective, and cognitive processes) and personal concerns?
2. How do interview interval, participant age, ethnicity, and family background impact language use across all the variables of the psychological processes (social, affective, and cognitive processes) and personal concerns?

The use of information gathered from youth in residential treatment programs may provide practitioners and policy makers with valuable knowledge to consider when designing and implementing behavioral or therapeutic interventions. Interview information from participants at various stages of the intervention may indicate that youth think differently as at different levels or steps of intervention. Moreover, as part of examining program efficacy, it may be helpful to explore specific time periods of treatment to determine when youth may

begin to undergo cognitive and attitudinal changes for those individuals who ultimately experience "buy-in" of their treatment. The current study used exploratory descriptive methods, direct interview of youth, and a linguistic analysis to examine the perceptions of 22 participants in a low security residential treatment center for adjudicated youth.

Method

Facility and Participants

The participants consisted of 22 youth offenders, who were placed at a residential facility at the time of study. This residential facility, located in a rural area in Texas, is a moderate-risk, community-based, re-education, and low security residential treatment facility. As a non-profit residential organization, the facility provides rehabilitation services for adolescent males who are in the juvenile probation system and combines academics, behavior modification, and therapeutic treatments. Unlike other correctional institutions, the low security facility provides the residents with a free environment. Though they are under constant supervision, they are not confined within locked cells and wire fences. The facility has a maximum capacity of 24 residents and the member of staff per resident ratio is approximately 8:1.

The residents are provided with on-site GED instruction and testing, online college enrollment and vocational education (i.e., wielding, carpentry, and culinary arts). As part of behavior modification strategies, the staff uses positive reinforcement (i.e., token economy, daily point cards) and a rank system (Recruit, Private, Sergeant, Lieutenant, and Captain), in which individual resident's rank may change monthly depending on accumulated points awarded. Concurrent with education and behavior modification programs, psychological evaluation is conducted upon arrival with subsequent individualized therapeutic treatment that includes Cannabis Youth Treatment (CYT), Anger Replacement Treatment (ART), and Licensed Chemical Dependency Counselor (LCDC). According to the director, more than

90% of the residents receive Chemical Dependency Counseling and about 20% of those receive anger management treatment. Criminal convictions extend to armed robbery, assault, and manslaughter, which are considered serious adolescent offenses.

The residents in the facility were invited to participate in the interviews by the director. The director and other administrators were interested in collaborative research with an educational institution to examine the effectiveness of the program and to evaluate the optimal time of the participants' stay that positive changes might be detected. The study was conducted with the approval of a university Institutional Review Board and complied with facility confidentiality regulations. Participants in the interview were voluntary. When they decided to participate, they were told they could opt out of any questions that they did not wish to answer and that they could terminate the interview at any time. Interviewees were not compensated. Two interviews were conducted with two separate groups, with a year interval between the first group's interview and second group's interview. Interview data were collected from 10 (55%) participants out of 18 residents from the first round (April, 2013) and 12 (55%) additional participants out of 22 residents from the second round (April, 2014) and later analyzed to answer the research questions.

Table 1 presents the participant profiles for ethnicity, length of stay, age, and family background. The participants were 14 Hispanics (64%), 6 African-Americans (27%), and 2 Caucasians (9%) with a mean age of 16.04 years. Half of the participants were residents at the facility for 3 to 10 months; while half of the participants were more recent residents, having a stay ranging from 1 week to 2 months. 12 participants (55%) reported that they were raised by one parent, an aunt (or uncle), or grandparents. Approximately half of the participants responded that one of their parents had previous criminal records or were currently serving their time in prison.

Table 1.

Participant Profiles (n=22)

Category	Details	First Round (n=10)	Second Round (n=12)
Ethnicity	Hispanic	8	6
	White	0	2
	African American	2	4
Length of stay	Less than 1 month	4	1
	1-2months	0	3
	2-3months	1	2
	3-4months	2	1
	4-5months	0	1
	5-6months	2	1
	More than 6 months	1	3
Age	15	2	2
	16	5	8
	17	2	2
	18	1	0
Family background (Caretaker when growing up)	Two parents	4	6
	One parents	4	5
	Others (no parents, grand-parents, uncles/aunt)	2	1

As shown in Table 2, all participants had been adjudicated on criminal charges that ranged from simple possession of an illegal substance to burglary, armed robbery, and assault to manslaughter. All of the participants had prior convictions and probation records. For the first round, 10 out of a total 17 offences (58.8%) reported were classified as person offenders and serious property offenses (e.g., burglary, arson, or theft). In contrast, all of the participants on the second round were charged with committing less serious property offences (e.g., trespassing or vandalism), drug offenses, or status offenses.

Table 2.

Offenses Leading to Current Placement

Current offense	Details	First Round (n=10)	Second Round (n=12)
Person	Murder, rape, kidnapping	1	0
	Robbery	3	0
	Assault with a weapon	0	0
	Assault without a weapon	2	0
Property	Burglary, arson, of theft	5	7
	Other property	0	1
Drug		2	2
Technical violation*		4	11
Total		17	21

*Technical violation: This category includes violations of probation or parole that are not classifiable as offenses in other categories in this table (i.e. testing positive for drugs, violating house arrest or electronic monitoring, or running away from a placement or facility).
The categorization of the offenses was adapted from Sedlak and Bruce (2010).

Interview Procedures

The list of the questions, developed by a course instructor, consisted of 8 open-ended questions to ask about participants' life experiences and future plans. The interview was structured to allow participants to respond in their own words and reflect on the perceptions about life experience without imposing an interviewer's perceptions or perspective on a given question (see Appendix 1 for the details).

The interviewers were female graduate students, who were enrolled in a required course in a Special Education program. Interviews were not taped. As one interviewer asked a question, the other transcribed the participant's response. The pairs of interviewers alternated asking the question and writing the responses while completing 10-15 minute interviews. Each pair of interviewers transcribed the interview on site and later their typed written transcriptions were used for analysis.

The first group of interviewers only received brief interview instructions and techniques; the second group of interviewers had interview instructions with an additional opportunity to hear from the previous interviewers about how to efficiently ask the questions and complete the transcription in pairs. No personal identifying information about the participants was obtained from either the facility or the participants during the interview.

Data Analysis

Participants' interviews were analyzed by using the computerized text tool, Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2001), which is designed to measure language use. A number of studies purport that individual's writing and verbal conversations are closely linked to mental and physical health (Pennebaker, Francis, & Booth, 2001; Pennebaker & Stone, 2003). The underlying assumption is that linguistic response associated with cognitive process and cognitive knowledge base exists in pronouns, content words, or various adjectives that people use in daily context (Campbell & Pennebaker, 2003). The words people use in conversation are proposed to carry rich and valuable information about their social and psychological worlds (Mehl & Pennebaker, 2003; Pennebaker, Mehl, & Niederhoffer, 2003).

The LIWC technology enables researchers to selectively analyse various types of predetermined categories of words of 80 output categories, which mainly include general descriptor categories (e.g., total word count, words per sentence), 22 standard linguistic dimensions (e.g., percentage of pronouns, articles, or auxiliary verbs), 32 word categories tapping psychological components (e.g., social, affect, cognition, biological processes), and 7 personal concern categories (e.g., work, home, leisure activities). In the current study, the focus was limited to 4 major categorized variables and 17 subcategorized variables that identify common features of participants' psychological processes and personal concerns reflected in language use during the interview.

Consequently, the 4 major categorized variables used included the psychological components of social processes, affective processes, and cognitive processes, and the final major categorized variable was personal concerns. Within each of the major categorized variables, the following subcategorized variables were analysed: 3 subcategories for Social processes (social, family, and friends); 5 subcategories for Affective processes (affective, positive, negative, anxiety, and anger); 5 subcategories for Cognitive processes (cognitive, insight, tentative, certainty, and inhibition); and 4 subcategories for personal concerns (work, achievement, home, and money). Please see Table 3 for the examples of each category. The statistical procedure ANOVA (SPSS 18.0 version) was used to examine the mean differences of language use between the groups by length of stay and interview interval at the significant level of 0.05 ($p<.05$).

Results

The results from the 4 major categorized variables and the 17 subcategorized variables were analyzed. The average number of word counts and words per sentence were 720.77 (SD=404.55) and 19.06 (SD=14.47), respectively. Table 3 summarizes the descriptive analysis of interview data by each variable with the examples. The word counts across all 17 subcategorized variables ranged from .38 (SD=.55) for anxiety to 16.08 (SD=2.53) for cognitive processes. Overall, cognitive processes words (M=21.32, SD=3.237) demonstrated the highest mean scores in total, followed by affective processes words (M=15.31, SD=6.488), social processes words (M=13.68, SD=3.911), and personal concerns (M=6.91, SD=1.724).

Table 3.

Descriptive Analysis of the Word Count by Categories (n=22)

		Variables	Examples	Mean	SD	Min	Max
Psychological processes	Social processes	Social	Mate, talk, they	10.82	3.354	6.96	21.76
		Family	Daughter, husband	2.40	.924	.90	4.39
		Friends	Friend, neighbor	.46	.386	.00	1.50
		Total scores		13.68	3.911	8.42	26.33
	Affective processes	Affective	Happy, cry, abandon	6.27	3.099	3.67	15.70
		Positive	Love, nice, sweet	4.15	1.508	1.65	7.75
		Negative	Hurt, ugly, nasty	2.42	1.311	.96	5.57
		Anxiety	Worried, fearful, nervous	.38	.551	.00	2.53
		Anger	Hate, kill, annoyed	.60	.491	.00	2.01
		Total scores		15.31	6.488	8.20	28.85
	Cognitive processes	Cognitive	Cause, know, ought	16.08	2.529	12.13	21.97
		Insight	Think, know, consider	1.87	.704	.78	3.66
		Tentative	Maybe, perhaps, guess	1.67	.935	.00	3.65
		Certainty	Always, never	1.03	.417	.52	2.22
		Inhibition	Block, constrain, stop	.68	.666	.00	2.82
		Total scores		21.32	3.237	14.78	27.35
Personal concern		Work	Job, majors, Xerox	2.78	1.045	.29	4.48
		Achievement	Earn, hero, win	1.63	.692	.52	3.23
		Home	Apartment, family, kitchen	.88	.433	.31	1.91
		Money	Audit, cash, owe	1.62	1.911	.00	6.83
		Total scores		6.91	1.724	3.98	10.24

With regard to 17 subcategorized variables, as shown in Figure 1, the most frequently used word category was cognitive process words (M=16.08, SD=2.529), followed by social process words (M=10.82, SD=3.354), affective process words (M=6.27, SD=3.099), and positive words (M=4.15, SD=1.508) while the least used word category was anxiety (M=.38, SD=.551).

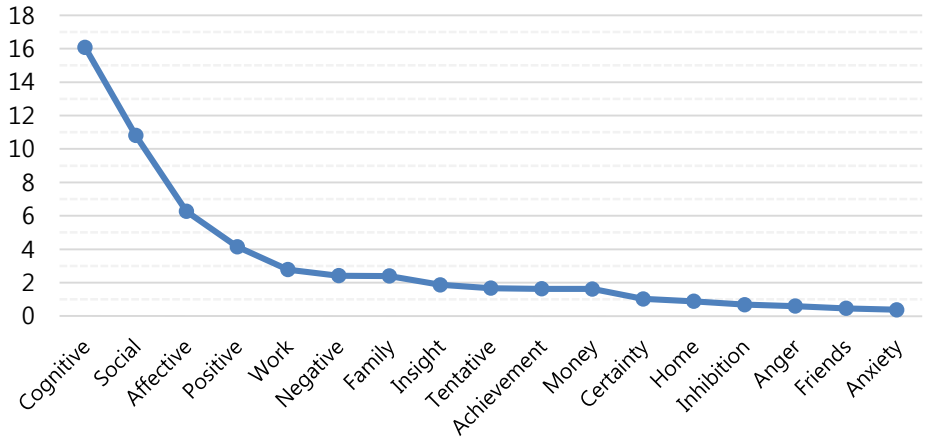


Figure 1. The Order of Language Use by Categories

Overall, most frequently used word category included cognitive process words, followed by social process words mainly reflecting on the relationships with others in the facility, affective words associated with emotional states, positive words reflecting positive attitudes, and work-related words. It was noted that words related to anxiety were produced the least among the 17 subcategorized variables.

Length of Stay

The results of two length of stay groups.

Table 4 summarizes the results of a one-way ANOVA by length of stay with all the variables. The results indicated that participants with longer residence (more than 3 months at the facility) did not show significant mean differences compared to those of the participants with shorter residence (less than 3 months) across the 4 major categorized variables of social, affective, cognitive processes words, and personal concern words.

In contrast, the results shown in Table 4 indicates that statistically significant mean differences were found between the two groups in the 17 subcategorized variables including affective words [$F(1,20) = 5.374$, $p<.031$], positive words [$F(1,20) = 5.134$, $p<.035$], anxiety

words, [$F(1,20) = 4.730$, $p<.042$], home-related words [$F(1,20) = 4.433$, $p<.048$], and money words [$F(1,20) = 5.418$, $p<.031$]. The participants with more than 3 months residence were found to engage in home-related words more frequently than those with less than 3 months residence. Meanwhile the participants with less than 3 months residence were found to engage in significantly greater word usage than those with more than 3 months residence in the subcategorized variables of affective words, positive words, anxiety words, and money words.

Table 4.

The Results of one-way ANOVAs (17 subcategorized variables)

		Variables	>3 mos. (n=11)		<3 mos.(n=11)		F	Sig.
			M	SD	M	SD		
Psychological processes	Social processes	Social	10.62	2.195	11.01	4.326	.070	.794
		Family	2.62	.808	2.18	1.015	1.279	.271
		friends	.49	.426	.41	.358	.217	.647
	Affective processes	affective	7.65	3.781	4.87	1.261	5.374*	.031
		positive	4.81	1.608	3.48	1.101	5.134*	.035
		negative	2.90	1.57	1.93	1.10	3.332	.83
		Anxiety	.61	.703	.14	.145	4.730*	.042
		anger	.46	.325	.74	.597	1.878	.186
	Cognitive processes	cognitive	15.56	2.294	16.58	2.757	.885	.358
		insight	1.80	.806	1.93	.616	.180	.676
		tentative	1.94	1.058	1.39	.740	2.021	.171
		certainty	1.01	.531	1.05	.286	.038	.848
		inhibition	.79	.854	.56	.414	.655	.428
Personal concern		work	2.60	1.115	2.94	.993	.558	.464
		Achievement	1.39	.608	1.86	.720	2.638	.120
		home	.70	.380	1.06	.420	4.433*	.048
		money	2.48	2.375	.75	.623	5.418*	.031

Note: >3 mos. = less than 3 months <3 mos. = more than 3 months
* p<.05

The results of three lengths of stay groups

For obtaining more specific information regarding the length of stay, the groups were rearranged by three different groups: less than 1 month (N=7), 2-4 months (N=7), and more than 5 months (N=8). As shown in Table 5, significant mean differences were found among the three groups in the 4 major categorized variables including cognitive process words [$F(2,19) = 3.750$, $p<.042$] and personal concern words [$F(2, 19) = 4.916$, $p<.019$]. In the follow-up pairwise t-tests using Tukey indicated that cognitive processes words showed significant mean difference between the group with 2-4 months residence and more than 5 months ($t = 3.919$, $p<.042$) while personal concern words demonstrated significant mean differences between the group with less than 1 month residence and 2-4 months residence ($t = 2.388$, $p<.014$). This result suggests that the group with more than 5 months residence tended to use more cognitive processes words than other two groups while the group with less than 1 month residence produced more personal concern words.

Table 5.

The Results of One-way ANOVA (4 major categorized variables) (n=22)

	Variables	Less than 1 mo. (n=7)		2-4 mo. (n=8)		more than 5 mo. (n=7)		F	Sig.
		Mean	SD	Mean	SD	Mean	SD		
Psychological processes	Social processes	13.61	3.201	13.72	3.032	13.69	5.706	.001	.999
	Affective processes	17.32	6.269	16.11	7.945	12.38	4.334	1.123	.346
	Cognitive processes	22.01	2.235	19.17	3.057	23.08	3.222	3.750*	.042
Personal concern		8.20	1.774	5.81	1.039	6.86	1.564	4.916*	.019

Note. * $p<.05$

negative words ($t = 1.784$, $p<.027$) and money words ($t = 2.317$, $p<.051$). The participants with less than 1 month residence expressed more negativity and more focused on money-related anecdotal episodes compared to those of the other two groups.

Regardless of statistical significance, an interesting pattern emerges from the mean scores of the three length of stay groups as displayed in Figure 2. The group with less than 1 month residence and within 2-4 months residence are marginally different but demonstrate similar patterns in which the group with less than 1 month residence used more affective processes words, more cognitive processes words, and more personal concern words, compared to those of the group within 2-4 months residence. The score patterns, however, have substantial variations when compared to the group with more than 5 months residence at the facility except social processes words. Figure 2 would suggest that a shorter length of stay (less than 5 months) did not impact on the participants' language use, which implies that participants' typical pre-residence language habits are reflected in their language use. On the contrary, the group of participants with longer length of stay (more than 5 months) were more capable of carefully articulating their emotions and feelings which resulted in less fluctuation as shown from the mean score of affective processes words. Furthermore, they used more cognitive processes words though this did not result in significant mean differences in this current study.

Collectively, it can be inferred from the language use patterns that changes in participants' word patterns seem to occur around the fifth month of stay. Consistent with Pennebaker and colleagues' work (Pennebaker & Stone, 2003; Pennebaker et al., 2003) on changes in language patterns reflecting changes in thinking patterns, it appears that these participants' changes in thought processes happen after 5 months. In other words, after a 5-month stay, participants are more selective in their word use, using fewer negative words and

more cognitive process words indicating perhaps a more positive outlook and a more developed approach to problem-solving as indicated by cognitive process words.

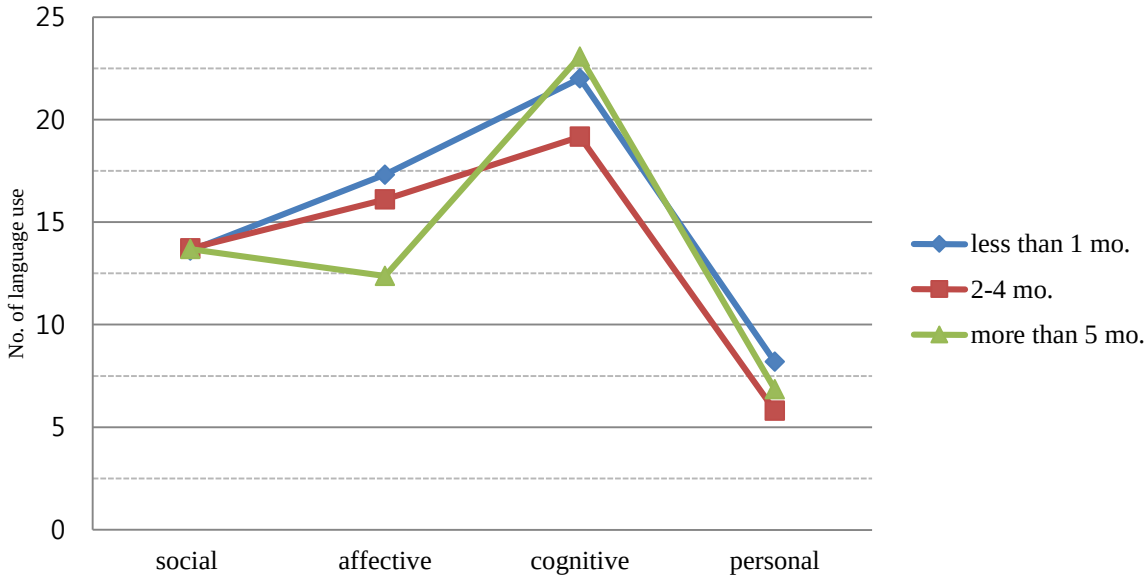


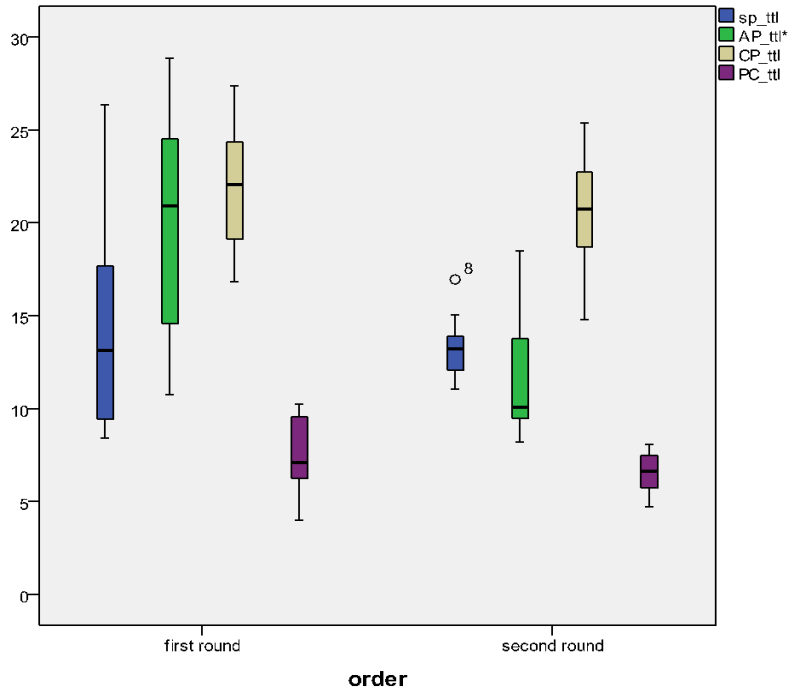
Figure 2. Score Patterns with Three Length of Stay Groups

Interview Interval

In the one-way ANOVA analysis, only major categorized variables of affective processes words [$F(1,20) = 14.93$. $p < .001$], and subcategorized variables of negative words [$F(1,20) = 7.604$, $p < .05$], and inhibition words [$F(1,20) = 5.176$, $p < .05$] distinguished the first round group (N=10) from the second round group (N=12). The first round group was found to produce a higher number of composite affective processes words, negative words, and inhibition words, compared with those of the second round group. These results reflect that the participants in the first round were more emotionally volatile than those in the second round. The major difference with respect to the interview internal was the severity of criminal acts according to the record review and self-reported data, indicating the first round participants had more serious criminal charges in comparison to the second round participants. The below Figure 3 illustrated the group mean differences by interview interval, suggesting

less variability in the overall total scores of the second round participants, compared to those of the first round participants.

Figure 3. Patterns of Composite Scores of Two Groups by Interview Interval



Note: SP ttl = Total score of social processes words; AP ttl = Total score of affective processes words; CP ttl = Total score of cognitive processes words; PC ttl = Total score of personal concern words

Conclusions

The primary purpose of the study was to examine whether length of stay impacts on the participants' language use in the low security facility. Additionally, it was further examined whether time of residence when they were interviewed influenced their language use. In the subsequent analyses, length of stay significantly impacted participants' language use in some categories. The participants with less time in residence (less than 3 months) tended to demonstrate higher rate of affective, positive, anxiety words, and money-related words compared to the counterparts. On the contrary, the participants with longer residence (more than 5 months) exhibited higher rate of cognitive processes words but lower rate of negative words compared to those of other two groups with shorter residence. Unlike previous research using narratives of juveniles from residential facilities (Mincey et al.,

2008), the results of the current study imply that there was a decrease in affective process words and an increase in cognitive processes words over time. These language changes reflect the changes in thinking and emotional regulation patterns and seem to support the implementation of residential behavioral treatment for this group of juvenile offenders for a period of more than 5 months in order to affect change. This finding deserves additional exploration in future studies of this population and should be expanded to study the long-term success of this type of residential program.

Findings from this research are consistent with other previous research emphasizing the significance of prevention and rehabilitation programs for high-risk youth, residential treatment programs or community-based alternative programs, and behavior interventions to reduce recidivisms rather than punitive approach (Fendrich & Archer, 1998; Jenson, Potter, & Howard, 2001). Traditionally, measuring linguistic and behavioral change has been difficult to do without time consuming standard comprehensive data collection processes, however, the linguistic analysis approach utilized in the current study may add value to more elaborate assessments to identify the residents' psychological or behavioral changes through language use. In other words, a linguistic analysis, along with traditional psychological assessments, may provide insightful information to measure the program efficacy over varying lengths of time of intervention.

As noted by Jovilette (2013), when conducting studies on this segment of the population a finding may be difficult to prove due to the complications caused by availability of participants and lack of specific data to answer research questions. One of the limitations in the study is that the analysis was conducted based on indirect transcriptions by the interviewers, which might be a risk factor in decreasing the validity of the study. In addition, it was difficult to verify the accuracy of some information regarding the participants' criminal backgrounds, educational levels, or socio-economic status because of legal restrictions in

accessing it and because some of the history was obtained through the participants comments during the interview rather than official court records. Another limitation concerns the relatively small number of the participants. Consequently, the results should be interpreted with extreme caution even though the use of statistical technique controls minimizes the problem. This issue is directly associated with drawing conclusions about the validity of the findings whether length of stay has impacted on the participants' language use.

This present research on linguistic changes of the youth offenders in a residential facility provides some directions for further research by examining the differences in length of time of treatment. In order to examine the causal relations between length of stay and subsequent attitudinal or behavioral changes, however, research foci should be expanded to the overall effectiveness of the program and should incorporate academic and vocational programs, behavioral modification strategies and therapeutic treatment, and academic outcomes. It is also advisable that future research include a longitudinal or repeated measurement approach over time in measuring the effectiveness of the residential program.

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APPENDIX

Interview Questions

Following your introductions to the AMI student, you will ask the following questions. Please allow the students to elaborate on their responses. The goal is to ascertain the student's insight about their present circumstance, determine if they have identified better behavioral strategies to use, and to determine their future plans for their functioning once they are able to leave AMI Kids.

1. Can you tell me a little bit about yourself and how you came to be at AMI Kids?"
2. How do you feel about being here (at AMI Kids)?
3. What are your favorite things about AMI Kids and what things would you suggest need to change?
4. What things would you like to change about yourself?
5. What people in your life have been influential? What people have influenced your decisions?
6. What are the most important things you have learned at AMI Kids?
7. Tell me a little bit about your future plans?
8. What would you like to do when you return home?