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Exploring Teachers' Resilience in Relation to Job Satisfaction, Burnout, Organizational Commitment and Perception of Organizational Climate

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ABSTRACT

This study is a descriptive research study investigating the relationship of teachers' resilience levels with job satisfaction, burnout, organizational commitment and perception of organizational climate. Within the scope of the study, teachers' resilience level was also investigated with regard to its relationship with gender, age, experience and the school level they teach. The study group consisted of 581 teachers. The data were collected through "Personal Information Form", "The Resilience Scale for Adults", "Job Satisfaction Scale", "The Burnout Measure Short Version", "Organizational Commitment Scale for Teachers" and "The Organizational Climate Description Questionnaire." The results revealed a significant negative relationship between teachers' resilience levels and burnout; and significant positive relationships between teachers' resilience levels and organizational commitment, job satisfaction and perception of organizational climate. As a result of the one way ANOVA analysis regarding the differences between resilience levels of the teachers working at different school levels, it was found out that the resilience level of the teachers working at high schools differ significantly from the ones working at secondary schools in the family cohesion subscale, one of the sub dimensions of resilience. Additionally, resilience levels of the teachers who work at secondary schools were found to be significantly lower compared to the teachers who work at elementary schools and high schools. When the level of resilience was examined in relation to gender, it was concluded that there was no significant difference between the mean scores of the male and female teachers. The only significant difference was found in the perception of self subscale, where the mean scores of the male teachers were higher than the female teachers. There was no significant difference in teachers' resilience or sub-scales of it in terms of age and experience of the participants.

Keywords:

resilience, burnout, job satisfaction, organizational commitment, organizational climate, gender, experience, age, school level

1. Introduction

Looking at the literature, it is possible to find various definitions of resilience and many different points emphasized in these definitions. Stewart, Reid and Mangham (1997) have identified the common themes of these definitions as follows: The risk factors brought about by multi-stress life events and the protective factors that alleviate the adverse effects of the risk contribute to the individuals' resilience. Resilience consists of a balance between stress and the individual's ability to cope. As long as the individuals succeed, their talents are strengthened. Resilience is a complex mutual game between the individuals' environment and certain characteristics of them. It is dynamic and developmental, and it is the most important factor in life transition periods (Yılmaz & Sipahioğlu, 2012). This construct was introduced to Turkish literature by Öğülmüş (2001), and was re-defined by Gizir (2004) and Terzi (2008) later on.

Previous research have shown the importance of resilience for the individual. Maddi and Kobasa (1984) argue that those who are more resilient are less sensitive to and depressed about the problems they face; Just (1999)

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put forward that resilient people do not give up easily, continue their tasks whatever the circumstances are, and are focused on finishing their work; Hanton, Evans and Neil (2003) stated that these people have the power and the desire to benefit from adverse situations besides capacity to influence their environment (Yalçın, 2013).

Teachers, who face and struggle with many difficulties in their professional life, need their resilience to be at a high level. Teaching is a profession members of which are confronted with many situations that generate stress and conflict. Teachers are expected to continue their work efficiently despite everything. The goodness of a teacher is linked to enjoying success, being resistant to stressful school environment, having other people who they can communicate both inside and outside the school, being able to solve the problems they face at school, making suggestions to students and parents for difficult conditions, being responsible and consistent, having their own ideas about the profession, continuous self-development and wanting to be a good teacher (Bayrak, 2004). Negative situations teachers come up with both in the education system and in the school setting may prevent them from having these qualities.

Job satisfaction, in general, means the pleasure and happiness that an individual receives from his/her working life. Environmental factors (work, working environment, etc.), demographic factors (age, gender, etc.) and psychological factors can affect teachers' job satisfaction (Crossman & Harris, 2006). Also, people may experience burnout at any level, no matter what their job is and which position they work in (Mestcioğlu, 2007, as cited in Demir & Kara, 2014). Teachers have an important place among employees who experience burnout. According to various scholars, teachers have more stress than members of other professions (Baltaş & Baltaş, 2000). Stress factors such as student discipline problems, student insensitivity, crowded classes, involuntary appointments, role conflicts, and criticisms may lead them to burnout (Farber, 1984). Taking all these into consideration, it is conceivable that the resilience qualities of teachers can protect them from burnout and increase their satisfaction with their job.

It is accepted that all the staff working in the school together constitute an organization. In Turkey, the most crowded group of this organization comprise of teachers. Organizational commitment is a term which combines attributes such as protecting organizational values, adopting the goals of the organization, willingness to work for the organization and to continue to work in the organization (Allen & Meyer, 1990; O'Reilly & Chatman, 1986). Tsui and Cheng (1999) defined teachers' organizational commitment as being involved in their school and identifying themselves strongly with the school. Measuring the productivity of teachers is quite difficult; therefore, the source of good education is considered to be teachers' knowledge and their organizational commitment (Firestone & Pennell 1993). Existence of teachers who are committed to their organization despite the difficulties in the educational environment creates curiosity about the psychological characteristics underlying this commitment.

Another important factor influencing teachers and is influenced by teachers in educational settings is organizational climate. Organizational climate is the organizational characteristics that members of an organization live in, that affects their behaviors and that can be expressed by organizational values (Tagiuri, 1968). When talking about organizational climate, it should be noted that this factor is made up of perceptions. Definitions of climate consist of emotional expressions of individuals and may vary for each individual (Karadağ, Baloğlu, Korkmaz, & Çalışkan, 2008). Members of an organization living in the same climate can have different perceptions. The climatic conditions are determined by the perceptions of the members, and therefore, the psychological states that affect perceptions are subject to research.

The fact that the teacher has an important position in the education system makes this profession the main focus of many research studies. Most research focus on the factors that affect teachers' performance and list what is required for the teacher to perform better in the existing education system. Considering the fact that teachers take on such an important and challenging task as raising a generation, it is necessary to examine the attitude they will adopt when confronted with difficulties. This research study aims to investigate the relationship of teachers' resilience level with job satisfaction, burnout, organizational commitment level and perception of organizational climate in addition to some demographic variables (gender, age, experience and the school level they teach). The findings of the study are expected to help the understanding of teachers' resilience and provide implications for further research.

The following research questions were intended to be answered:

1. Is there a relationship between teachers' resilience levels and job satisfaction, burnout, organizational commitment and perception of organizational climate?
2. Does teachers' resilience level differ according to gender, age, experience and school level they teach?

2. Method

This study is a descriptive research study which investigates the relationship of teachers' resilience level with job satisfaction, burnout, organizational commitment and perception of organizational climate.

2.1. Participants

The study group consists of 581 teachers working in Bursa, Sakarya and Yalova provinces in the 2014-2015 academic year. 415 (71,4%) of the teachers in the study group are female and 166 (28,6%) are male. 211 (36.31%) of the participants were between the ages of 22-30, 229 (39.41%) of them were between 31-40, 117 (20.13%) of them were between 41-50, and 24 (4.13 %) of them were over 51. 29 (%4.99) of the participants were teachers at kindergarten, 234 (40.27%) of them were at elementary school, 156 (26.85%) of them were at secondary school, and 162 (27.88%) of them were at high school. When the participant experience in the profession is examined, it is observed that 308 (53.01%) of them had 1-10 years, 108 (18.58%) of them had 11-15 years, 85 (14.62%) of them has 16-20 years, and 80 (13.76%) of them had over 21 years of experience.

2.2.Data Collection Instruments

The data of the study were collected through personal information form developed by the researcher, The Resilience Scale for Adults, Job Satisfaction Scale, The Burnout Measure Short Version, Organizational Commitment Scale for Teachers and The Organizational Climate Description Questionnaire.

2.2.1. Personal Information Form

The personal information form prepared by the researcher consists of 4 questions aiming to collect information on the teachers' gender, age, school level and experience in years.

2.2.2. The Resilience Scale for Adults

The Resilience Scale for Adults was developed by Friborg et al. (2005) and adapted to Turkish by Basım and Çetin (2011). The scale consists of 33 items in total; and has a 6-factor structure comprising of structured style, planned future, family cohesion, perception of self, social competence and social resources. Regarding the scoring, which is set free in the original version of the scale, high scores are accepted as indication of high resilience in this study.

2.2.3. Job Satisfaction Scale

Job Satisfaction Scale was developed by Hackman and Oldham (1975) and adapted to Turkish by Silah (2002). This scale was applied to teachers by Taşdan (2008) and validity and reliability analyzes were performed. Job Satisfaction Scale, which is used to measure an individual's evaluation of his/her job, is composed of 14 items evaluated on a five Likert-type scale. According to the findings of Taşdan (2008), it has a single-factor structure. The factor loadings of the items in the scale ranged from .69 to .86, and item-total correlations ranged from .66 to .84. The total variance explained by the scale is 64%. The Cronbach alpha internal consistency coefficient of the scale is .95 (Yılmaz & Altınkurt, 2012).

2.2.4. The Burnout Measure Short Version

The Burnout Measure Short Form (BM-SV), developed by Pines (2005), was formed in the contextual basis of the 21-item Burnout Measure (BM), developed by Pines and Aronson in 1988, which assesses the physical, emotional and mental fatigue levels of a person. BM-SV consists of 10 items to measure the occupational burnout level of the persons, and is answered on a seven-point scale (1 Never ; 7 Always). The adaptation, validity and reliability studies of the scale were made by Çapri (2013); and a single-factor structure was obtained as a result. This single factor was found to have an eigenvalue of 5.52 and a total variance explanation rate of 55.17%. The internal consistency coefficient was calculated as 0.91.

2.2.5. Organizational Commitment Scale for Teachers

Developed by Üstüner (2009), Organizational Commitment Scale for Teachers aims to measure the level of organizational commitment of teachers working at elementary and secondary schools. The scale was composed of one dimension and 17 five-level Likert items as a result of the exploratory and confirmatory factor analyses. It was found that this scale had a high positive relationship with the Minnesota Satisfaction Scale, and a moderate negative relationship with the Maslach Burnout Inventory. The internal consistency coefficient of the scale was calculated as .96, and the test-retest correlation coefficient was .88 (Üstüner, 2009).

2.2.6. The Organizational Climate Description Questionnaire

The Organizational Climate Description Questionnaire for Elementary Schools (Hoy & Tarter, 1997) was adapted to Turkish by Yılmaz and Altinkurt in 2013. Paying attention to the original and Turkish versions, constructs were named as “Supportive Principal Behavior”, “Directive Principal Behavior”, “Restrictive Principal Behavior”, “Intimate Teacher Behavior”, “Collegial Teacher Behavior” and “Disengaged Teacher Behavior”. The questionnaire consists of 39 items, and is answered on four Likert-type scale with options rarely, sometimes, often and frequently. The factor loadings of the items in the scale ranges between 0.46 and 0.82; item-total correlations between 0.35 and 0.77; and reliability coefficients 0.70 and 0.89 (Yılmaz & Altinkurt, 2013).

3. Results

In this section, the relationship between the resilience levels of teachers and job satisfaction, burnout, organizational commitment and perception of organizational climate was examined; and whether the levels of resilience differed according to some demographic characteristics (gender, age, experience and school level) was investigated. The results obtained are given in tables.

3.1. The Relationship Between Teachers’ Resilience and Job Satisfaction, Burnout, Organizational Commitment, and Perception of Organizational Climate

Pearson’s correlation coefficients were examined in order to find out the relationship between the resilience levels of teachers and job satisfaction, burnout, organizational commitment and perception of organizational climate; and the results are presented in Table 1.

Table 1. Correlation Values Regarding The Relationship Between Teachers’ Resilience and Job Satisfaction, Burnout, Organizational Commitment, and Perception of Organizational Climate

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Resilience Level	-																
2. Structured Style	.41**	-															
3. Planned Future	.62**	.15**	-														
4. Family Cohesion	.69**	.12**	.31**	-													
5. Perception of Self	.76**	.24**	.50**	.35**	-												
6. Social Competence	.72**	.17**	.31**	.33**	.46**	-											
7. Social Resources	.77**	.22**	.36**	.50**	.46**	.47**	-										
8. Organizational Commitment	.25**	.07	.20**	.12**	.27**	.18**	.18**	-									
9. Burnout	-.30**	-.14**	-.28*	-.13**	-.33**	-.19**	-.18**	-.31**	-								
10. Job Satisfaction	.24**	.07	.22**	.13**	.22**	.16**	.17**	.61**	-.41**	-							
11. Organizational Climate	.17**	.05	.14**	.09*	.12**	.13**	.14**	.48**	-.12**	.42**	-						
12. Supportive Principal Behavior	.08	-.03	.10*	.04	.09	.05	.04	.68**	-.23**	.46**	.59**	-					
13. Intimate Teacher Behavior	.20**	.24**	.07	-.11**	-.10**	-.10**	.17**	.18**	.26**	.44**	.57**	.51**	-				
14. Directive Principal Behavior	.04	.03	.08	.03	.02	-.01	.02	.02	.03	.07	.48**	-.01	.18**	-			
15. Collegial Teacher Behavior	.21**	.07	.14**	.13**	.18**	.17	.16**	.52**	-.27**	.49**	.68**	.41**	.54**	.09*	-		
16. Restrictive Principal Behavior	.02	.06	-.01	-.03	.03	.00	.02	-.13**	.13**	-.11**	.19**	-.14**	-.01	-.02	-.06	-	
17. Disengaged Teacher Behavior	-.15**	-.04	-.11**	-.13**	-.13**	-.09*	-.10**	-.33**	.30**	-.28**	-.09*	-.30**	-.05	.12**	-.25**	.16**	-
\bar{X}	134,94	14,60	16,64	24,43	24,75	24,18	30,34	51,26	28,67	44,54	96,46	24,40	18,52	14,33	18,75	12,10	8,35
Ss	13,77	2,42	2,55	4,02	3,64	4,00	3,59	14,96	9,52	8,94	11,54	5,78	4,30	4,19	3,62	2,82	2,84

* p <.05, ** p <.01

When Table 1 is examined, it is observed that there are significant relationships between teachers' resilience and burnout ($r = -.30$), organizational commitment ($r = .25$), job satisfaction ($r = .24$) and perception of organizational climate ($r = .17$). In addition, it was found that there was a significant correlations between teachers' resilience and some subscales of organizational climate such as collegial teacher behavior ($r = .21$), intimate teacher behavior ($r = .20$) and disengaged teacher behavior ($r = -.15$). When the subscales of resilience are examined, structured style has significant relationships with burnout ($r = -.14$) and one of the organizational climate subscales, intimate teacher behavior ($r = .24$). Planned future subscale has significant relationships with organizational commitment ($r = .20$), burnout ($r = -.28$), job satisfaction ($r = .22$), organizational climate ($r = .14$), collegial teacher behavior subscale of organizational climate ($r = .14$) and disengaged teacher behavior subscale of organizational climate ($r = -.11$).

Additionally, family cohesion subscale of resilience has significant relationships with organizational commitment ($r = .12$), burnout ($r = -.13$), job satisfaction ($r = .13$), intimate teacher behavior subscale of organizational climate ($r = -.11$), disengaged teacher behavior subscale of organizational climate ($r = -.13$) and collegial teacher behavior subscale of organizational climate ($r = .13$).

Perception of self subscale of resilience is found to be significantly related to organizational commitment ($r = .27$), burnout ($r = -.33$), job satisfaction ($r = .22$) and organizational climate ($r = -.12$). Furthermore, perception of self subscale has significant relationships with intimate teacher behavior subscale of organizational climate ($r = -.10$), disengaged teacher behavior subscale of organizational climate ($r = -.13$) and collegial teacher behavior subscale of organizational climate ($r = .18$).

Another subscale of resilience, social competence, is found to be correlated with organizational commitment ($r = .18$), burnout ($r = -.19$), job satisfaction ($r = .16$), organizational climate ($r = .13$), and an organizational climate subscale, intimate teacher behavior ($r = -.10$). Moreover, social resources subscale of resilience is correlated with organizational commitment ($r = .18$), burnout ($r = -.18$), job satisfaction ($r = .17$), organizational climate ($r = .14$), intimate teacher behavior subscale of organizational climate ($r = .17$), disengaged teacher behavior subscale of organizational climate ($r = -.10$) and collegial teacher behavior subscale of organizational climate ($r = .16$). It is also noted that there is no significant relationship between resilience level of teachers and principal behavior types (supportive principal behavior, $r = .08$, directive principal behavior, $r = .04$, "restrictive principal behavior., $r = .02$).

3.2. The Relationship Between Teachers' Resilience and Gender, Age, Experience and School Level

An independent groups t-test was conducted to determine whether teachers' resilience levels differed according to gender, and the results are presented in Table 2.

Table 2. Independent Groups t-Test Results Regarding Differences in Teachers' Resilience Levels by Gender

Variable	Gender	N	X	Ss	t	Sd	p																																																																				
Resilience Level	Female	415	135,40	13.73	1.285	579	.199																																																																				
	Male	166	133,78	13.83				Structured Style	Female	415	14.73	2.40	2.172	579	.428	Male	166	14.25	2.44	Structured Style	Female	415	16.71	2.55	1.127	579	.260	Male	166	16.46	2.54	Family Cohesion	Female	415	19.09	4.39	5.20	579	.190	Male	166	17.08	3.67	Perception of Self	Female	415	24.67	3.69	-.808	579	.029	Male	166	24.94	3.53	Social Competence	Female	415	24.21	4.00	.247	579	.804	Male	166	24.11	4.03	Social Resources	Female	415	30.50	3.47	1.713	579	.087
Structured Style	Female	415	14.73	2.40	2.172	579	.428																																																																				
	Male	166	14.25	2.44				Structured Style	Female	415	16.71	2.55	1.127	579	.260	Male	166	16.46	2.54	Family Cohesion	Female	415	19.09	4.39	5.20	579	.190	Male	166	17.08	3.67	Perception of Self	Female	415	24.67	3.69	-.808	579	.029	Male	166	24.94	3.53	Social Competence	Female	415	24.21	4.00	.247	579	.804	Male	166	24.11	4.03	Social Resources	Female	415	30.50	3.47	1.713	579	.087	Male	166	29.93	3.85								
Structured Style	Female	415	16.71	2.55	1.127	579	.260																																																																				
	Male	166	16.46	2.54				Family Cohesion	Female	415	19.09	4.39	5.20	579	.190	Male	166	17.08	3.67	Perception of Self	Female	415	24.67	3.69	-.808	579	.029	Male	166	24.94	3.53	Social Competence	Female	415	24.21	4.00	.247	579	.804	Male	166	24.11	4.03	Social Resources	Female	415	30.50	3.47	1.713	579	.087	Male	166	29.93	3.85																				
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	Male	166	17.08	3.67				Perception of Self	Female	415	24.67	3.69	-.808	579	.029	Male	166	24.94	3.53	Social Competence	Female	415	24.21	4.00	.247	579	.804	Male	166	24.11	4.03	Social Resources	Female	415	30.50	3.47	1.713	579	.087	Male	166	29.93	3.85																																
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	Male	166	24.94	3.53				Social Competence	Female	415	24.21	4.00	.247	579	.804	Male	166	24.11	4.03	Social Resources	Female	415	30.50	3.47	1.713	579	.087	Male	166	29.93	3.85																																												
Social Competence	Female	415	24.21	4.00	.247	579	.804																																																																				
	Male	166	24.11	4.03				Social Resources	Female	415	30.50	3.47	1.713	579	.087	Male	166	29.93	3.85																																																								
Social Resources	Female	415	30.50	3.47	1.713	579	.087																																																																				
	Male	166	29.93	3.85																																																																							

When Table 2 is examined, there is no significant difference between the scores obtained from males and females except for the perception of self subscale. When the scores obtained from the perception of self subscale are examined, it is found that the mean scores of the males (M: 24.94, SD: 3.53) are significantly higher than the mean scores of the females (M: 24.67, SD: 3.69, t: (579): -.808, p:.029) .

One-way analysis of variance was conducted to determine whether teachers' resilience levels differed with respect to age groups, and the results are presented in Table 3.

Table 3. One-way ANOVA Results Regarding Differences in Teachers' Resilience Levels by Age Groups

Variables	N	X̄	Source of Variation	Ss	Sd	Ms	F	p
Resilience Level	22-30	211	Between groups	142,68	3	47,56	,250	,861
	31-40	229	Within groups	109791,34	577	190,28		
	41-50	117	Total	109934,02	580			
	51-100	24						
	Total	581		134,93				
Structured Style	22-30	211	Between groups	31,63	3	10,54	1,805	,145
	31-40	229	Within groups	3370,33	577	5,84		
	41-50	117	Total	3401,97	580			
	51-100	24		15,52				
	Total	581		14,60				
Planned Future	22-30	211	Between groups	13,05	3	4,35	,668	,572
	31-40	229	Within groups	3756,67	577	6,51		
	41-50	117	Total	3769,73	580			
	51-100	24		16,33				
	Total	581		16,64				
Family Cohesion	22-30	211	Between groups	12,38	3	4,12	,254	,858
	31-40	229	Within groups	9377,60	577	16,25		
	41-50	117	Total	9389,98	580			
	51-100	24		23,76				
	Total	581		24,43				
Perception of Self	22-30	211	Between groups	86,51	3	28,83	2,186	,089
	31-40	229	Within groups	7612,25	577	13,19		
	41-50	117	Total	7698,76	580			
	51-100	24		25,11				
	Total	581		24,75				
Social Competence	22-30	211	Between groups	17,51	3	5,83	,363	,780
	31-40	229	Within groups	9270,93	577	16,06		
	41-50	117	Total	9288,44	580			
	51-100	24		24,74				
	Total	581		24,18				
Social Resources	22-30	211	Between groups	8,32	3	2,77	,215	,886
	31-40	229	Within groups	7456,61	577	12,91		
	41-50	117	Total	7464,93	580			
	51-100	24		30,13				
	Total	581		30,34				

When Table 3 is examined, no significant difference between teachers' resilience levels or subscales of it and four different age groups is observed (p> .05).

One-way analysis of variance was conducted to determine whether teachers' resilience levels differed with respect to school level, and the results are presented in Table 4.

Table 4. One-way ANOVA Results Regarding Differences in Teachers' Resilience Levels by School Level

Variables		N	\bar{X}	Source of Variation	Ss	Sd	Ms	F	p
Resilience Level	Kindergarten	29	136,81	Between groups	966,403	3	322,134	1,706	,165
	Elementary	234	135,74	Within groups	108967,624	577	188,852		
	Secondary	156	132,86	Total	109934,027	580			
	High	162	135,42						
	Total	581	134,93						
Structured Style	Kindergarten	29	15,24	Between groups	14,935	3	4,978	,848	,468
	Elementary	234	14,53	Within groups	3387,039	577	5,870		
	Secondary	156	14,66	Total	3401,974	580			
	High	162	14,50						
	Total	581	14,60						
Planned Future	Kindergarten	29	16,14	Between groups	12,451	3	4,150	,637	,591
	Elementary	234	16,77	Within groups	3757,282	577	6,512		
	Secondary	156	16,57	Total	3769,733	580			
	High	162	16,61						
	Total	581	16,64						
Family Cohesion	Kindergarten	29	24,80	Between groups	212,292	3	70,764	4,449	,004
	Elementary	234	24,73	Within groups	9177,698	577	15,906		
	Secondary	156	23,44	Total	9389,989	580			
	High	162	24,89						
	Total	581	24,43						
Perception of Self	Kindergarten	29	25,38	Between groups	42,301	3	14,100	1,063	,364
	Elementary	234	24,83	Within groups	7656,461	577	13,269		
	Secondary	156	24,35	Total	7698,761	580			
	High	162	24,90						
	Total	581	24,75						
Social Competence	Kindergarten	29	30,82	Between groups	25,811	3	8,604	,536	,658
	Elementary	234	30,49	Within groups	9262,634	577	16,503		
	Secondary	156	29,96	Total	9288,445	580			
	High	162	30,39						
	Total	581	30,34						
Social Resources	Kindergarten	29	24,43	Between groups	34,950	3	11,650	,905	,439
	Elementary	234	24,38	Within groups	7429,987	577	12,877		
	Secondary	156	23,88	Total	7464,938	580			
	High	162	24,14						
	Total	581	24,18						

When Table 4 is examined, significant statistical differences are found between four school levels only in the family cohesion subscale [$F(3,577) = 4.449, p < .01$]. Despite the statistical significance between groups, it appears that the real difference between the average scores of the groups is quite small. The effect size calculated using Eta square was found to be .002. This level indicates that the effect size is very small. In order to determine which groups differ significantly, Tukey HSD was used. According to the results, the

mean score obtained from the teachers in the high school (M = 24.89, SD = 3.66) is significantly higher than teachers in the secondary school (M = 23.44, SD = 3.99). Furthermore, the secondary school group (M = 23,44, SD = 3.99) has significantly lower scores compared to the elementary school group as well (M = 24,73, SD = 4,24).

One-way analysis of variance was conducted to determine whether teachers' resilience levels differed with respect to experience, and the results are presented in Table 5.

Table 5. One-way ANOVA Results Regarding Differences in Teachers' Resilience Levels by Experience

Variables		N	X̄	Source of Variation	Ss	Sd	Ms	F	p
Resilience Level	1-10	308	134,82	Between groups	262,196	3	87,399	,460	,710
	11-15	108	134,99	Within groups	109671,830	577	190,072		
	16-20	85	133,91	Total	109934,027	580			
	21-100	80	136,39						
	Total	581	134,93						
Structured Style	1-10	308	14,45	Between groups	36,636	3	12,212	2,094	,100
	11-15	108	14,96	Within groups	3365,338	577	5,832		
	16-20	85	14,33	Total	3401,974	580			
	21-100	80	14,94						
	Total	581	14,60						
Planned Future	1-10	308	16,74	Between groups	11,014	3	3,671	,564	,639
	11-15	108	16,45	Within groups	3758,719	577	6,514		
	16-20	85	16,45	Total	3769,733	580			
	21-100	80	16,71						
	Total	581	16,64						
Family Cohesion	1-10	308	24,51	Between groups	19,921	3	6,640	,409	,747
	11-15	108	24,35	Within groups	9370,068	577	16,239		
	16-20	85	24,05	Total	9389,989	580			
	21-100	80	24,68						
	Total	581	24,43						
Perception of Self	1-10	308	24,46	Between groups	66,326	3	21,442	1,621	,183
	11-15	108	24,88	Within groups	7634,436	577	13,231		
	16-20	85	25,03	Total	7698,761	580			
	21-100	80	25,37						
	Total	581	24,75						
Social Competence	1-10	308	24,27	Between groups	24,190	3	8,063	,502	,681
	11-15	108	23,98	Within groups	9264,254	577	16,056		
	16-20	85	23,83	Total	9288,445	580			
	21-100	80	24,47						
	Total	581	24,18						
Social Resources	1-10	308	30,38	Between groups	2,949	3	,983	,076	,973
	11-15	108	30,38	Within groups	7461,988	577	12,932		
	16-20	85	30,23	Total	7464,938	580			
	21-100	80	30,22						
	Total	581	30,34						

When Table 5 is examined, no significant difference between teachers' resilience levels or subscales of it and four different experience groups is observed ($p > .05$).

4. Conclusions and Implications

In this section, initially, the relationship between teachers' resilience and burnout, job satisfaction, organizational commitment and perception of organizational climate is elaborated along with the research questions, and differences in teachers' resilience levels according to their demographic characteristics (gender, age, experience and school level) are discussed next.

Findings of this study have shown that there is a significant negative correlation between resilience and burnout. It has been observed that previous research examining the relationship between burnout and resilience have suggested similar findings (Basım & Çetin, 2011; Lammers, Atouba & Carlson, 2013; Büyükşahin Çevik, Doğan & Yıldız, 2016). In addition, the study conducted by Bitmiş, Sökmen and Turgut (2013) has indicated that the level resilience has a direct negative effect on burnout. In the study performed by Çetin, Şeşen and Basım (2013), the effect of organizational psychological capital on burnout was investigated, and a negative relationship between emotional exhaustion, one of the sub-dimensions of burnout, and resilience, which is considered as a component of psychological capital, was revealed. It is expected that individuals with high levels of resilience will be able to behave adaptively with changes and succeed in struggling against difficulties. As individuals become more resilient, they will be less affected by difficult conditions in the work environment. Thus, they will experience a lower level of burnout. Therefore, it can be said that a negative relationship between these two variables is an expected result.

One of the findings of the study is that there is a significant positive relationship between resilience and organizational commitment. These findings are also in parallel with previous studies in the literature (Luthans & Jensen, 2005; Larson & Luthans, 2006; Youssef & Luthans, 2007; Genç, 2014). In the literature, there are findings revealing that resilience is positively related to not only organizational commitment but also job satisfaction and job performance (Basım & Çetin, 2011; Luthans, Avolio, Avey, & Norman, 2007). These results show that as the level of resilience increases, individuals will be more committed to their organizations. It can be argued that individuals with higher levels of resilience will internalize the rules of the organization and their responsibilities within the organization, and will want to contribute to their organizations more than other members of it. There are studies also showing that as organizational commitment increases, job performance increases, and job withdrawal and absenteeism decrease (Abbott, White & Charles, 2005; Larrabee et al., 2010; Luthans, 2005, Basım & Cetin, 2011).

Another finding of the study showed that there is a significant positive relationship between resilience and job satisfaction levels. In the literature, research that investigates only the relationship between resilience and job satisfaction has not been encountered, but there are studies investigating the relationship between resilience and resilience as a dimension of positive psychological capital and job satisfaction and other organizational qualities. These existing studies support the findings obtained from the current study (Britton, 2008; Basım & Çetin, 2011; Luthans et al., 2007; Larrabee et al., 2010; Larson & Luthans, 2006; Youssef & Luthans, 2007). It is supported by the that individuals with high resilience levels have high job satisfaction. Likewise, Çelik, Sanberk and Deveci (2017), who investigated resilience and life satisfaction, found a significant positive relationship between life satisfaction and resilience levels of teacher candidates.

A significant positive relationship between resilience and organizational climate was found as a result of the current study. No research studies investigating the relationship between teachers' resilience levels and perceptions of organizational climate exist in the literature. In this regard, the information provided by the current study is thought to be contributing to the literature.

The results of the study also indicated that there was no significant difference in the resilience levels of the teachers in terms of gender except the perception of self subscale. When the scores obtained from the perception of self subscale were examined, it was found that the mean scores of males were significantly higher than the mean scores of females. Most research investigating the level of resilience in terms of gender ((Harrison, Loiselle, Duquette, & Semenic, 2002; Özcan, 2005; Maddi, Harvey, Khoshaba, Lu, Persico, & Brow,

2006; Terzi, 2008; Kırımoğlu, Yıldırım & Temiz, 2010; Sezgin, 2012; Yalçın, 2013; Gürkan, 2014; Büyüksahin Çevik et al., 2016) concluded that gender has no effect on resilience. On the other hand, research with different results on resilience-gender relationship also exist. Hannah and Morrisey (1986) found that women had higher levels of resilience than men. Kaner, Bayraklı and Güzeller (2011) found that mothers are more resilient in self-competence dimension than fathers. In the study conducted by Bozgeyikli and Şat (2014), it was found that the resilience levels of female teachers were significantly higher than that of male teachers. Contrary to research that indicate difference is in the advantage of women, Yalçın (2013) found that male teachers had a higher level of resilience than females in the study conducted with elementary school teachers aiming to explore the relationship between burnout and stress, resilience and academic optimism.

It was found out that there was no meaningful difference in the resilience levels of teachers according to their age and experience in the profession. The results from previous research also support that age has no effect on the level of resilience (Harrisson et al., 2002, Chan, 2003, Maddi et al., 2006; Sezgin, 2009; Sezgin, 2012; Genç, 2014). On the contrary, Hannah and Morrisey (1986) concluded that as the individual gets older, there is a significant decrease in the level of resilience of women. Also shown by Kaner et al. (2011) that in parents' self-competence beliefs and conduct of life decrease with age. Yalçın (2013) determined that teachers between the ages of 41-50 have the highest level of perception of resilience. The fact that there is no significant difference in the level of resilience by experience was supported by the research conducted by Harrisson et al. (2002), Sezgin (2009), Kırımoğlu and colleagues (2010), Sezgin (2012) and Yalçın (2013). On the other hand, the results obtained from the study on teachers working in private schools indicated that the mean scores of candidate teachers were significantly lower than the mean scores of teachers with 6-10 years and 15 years of experience (Bozgeyikli & Şat, 2014).

The results of the study showed that in terms of the school level teachers work at, resilience levels differed significantly only in the family cohesion subscale. This difference suggests that secondary school teachers have a lower level of family cohesion than high school and elementary school teachers. There is no finding in the literature on whether teachers' resilience depends on the school level; however, in the study conducted by Yalçın (2013), it was found out that the resilience level of elementary school teachers is higher than that of branch teachers. Prior to 4+4+4 educational system, both elementary and secondary school levels co-existed in the first 8 years; therefore, it can be assumed that elementary school teachers participated in the study represent elementary schools, and branch teachers represent secondary schools. This supports the findings obtained from this research study by pointing out that the teachers working at elementary school level have higher levels of resilience than the teachers working at secondary school level.

The results obtained from the current research can be said to have reached the main purpose of the study. The following suggestions can be made by taking the results into consideration.

In this study, demographic characteristics were determined as gender, age, school level and experience. Different variables such as marital status, branch, socio-economic status of the school can be examined in similar studies. In addition to the data collection instruments used in the current study, different instruments that measure the same concepts on a sample of teachers can also be used in different research studies to create an opportunity to make a comparison. Studies with larger samples can motivate the development of in-service trainings and school-based practices to raise the level of resilience of teachers; and they can especially enlighten high-level managers when educational policies are being developed. It would be of considerable benefit if researchers focus on designing training programs for the "development of resilience", as a very rare subject in national literature, and on whether these programs achieve the desired results in increasing the efficiency of teachers, who are seen as the leading actors of the education system. Because resilience can be improved, various education programs and trainings to be given in this subject may increase the level of teachers' resilience.

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Effects of peer relationships on parent–youth relationships and self-differentiation

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ABSTRACT

We aimed to explore how romantic relationship status affects the moderating effect of peer relationships on associations between parent–youth relationships and Self-differentiation. Chinese college students (N=389) completed measures to assess the Self-differentiation, parent–youth relationships, peer relationships, and romantic relationships. Results revealed that the interaction effect between peer discord and father–youth discord was not significant for romantically involved participants ($\gamma=0.22$, $SE=0.02$, $p=0.13$), while the interaction effect between peer discord and father–youth discord was significant for single participants ($\gamma=0.20$, $SE=0.01$, $p<0.05$). In other words, the protective effect of peer relationships on the associations between parent–youth relationships and differentiation of self was effective only for single participants. The theoretical and practical implications of these findings are discussed.

Keywords:

self-differentiation; parent-young relationships; peer relationships; romantic relationships; moderating effect

1.Introduction

Self-differentiation, a core concept introduced in Bowen's family systems theory, is defined as the degree to which an individual is independent from or emotionally attached to his or her family members or significant others (Bowen,1980). The definition covers two aspects: the intra-personal, or the capacity to distinguish the thinking and feeling systems, and the interpersonal, or the ability to preserve autonomy within the context of deep intimacy with significant others (Bowen,1980). Thus, greater differentiation involves the ability to engage in logical reasoning with thoughtful examination of the circumstances, and the ability to modulate strong emotions under pressure. Furthermore, Bowen (1980) stated that individuals with greater self-differentiation would not be overly dependent upon or emotionally cutoff from parents and significant others. The level of differentiation correlates directly with psychosocial development in young adults, including well-being, emotional regulation, competence, and adaptive ability (Skowron, 2004; Skowron, Holmes, & Sabatelli, 2013). Bowen suggested that an individual's relationship with his or her parents is at the core of self-differentiation, and that the basic level of differentiation is largely determined by how well an individual emotionally separates from his or her family of origin. A growing number of studies reveal that the parent–youth relationship, as one of the most basic and important of all family relationships, has an enormous influence on the physical and mental development of adolescents and young adults. For example, individuals with secure parental attachment, who experienced responsive parenting, and who have less

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involved or less-interfering mothers tend to successfully differentiate from their families of origin, thereby achieving a higher level of self-differentiation (Kere, 1981; Barber, 2005).

In recent years, Bronfenbrenner's ecosystem theory has received increased attention, resulting in greater emphasis on the systematic effects of each individual's environmental and interpersonal contexts. In addition to the influence of the parent–youth relationship, peer relationships are also closely associated with self-differentiation (Bronfenbrenner, 1979). Several studies show that peer relationships can help individuals separate from their families of origin, enabling smooth completion of the individuation process (Seiffge-Krenke, 2006), and can help individuals develop the ability to regulate emotions appropriately (Boykin, Allen, Claire, & Hare, 2009). From adolescence onwards, adolescents spend more time with their peers than their parents (Rubin, Bukowski, & Parker, 2008). Study taking college students as samples showed that the discord with parents was more frequent than discord with friends (Moilanen & Raffaelli, 2010). However, peers provide unique and increasingly powerful forms of socialization over the course of adolescence (Brown & Larson, 2009). Furthermore, positive peer experiences thought to potentially buffer the effects of poor parent–youth relationships. For example, excessive interference from the father has a smaller effect on emotional regulation in individuals with positive peer relationships than individuals with poor peer relationships (Peng et al., 2013). Another important developmental task during adolescence and early adulthood is the development of romantic relationships (Herzog & Hill-Chapman, 2013). In fact, dating and romantic relationships have been described as arenas in which autonomous behaviors can be enacted and supported. For example, emerging adults with more support from a romantic partner tend to report greater independence from parents and more authentic self-expression (Melanie et al., 2011). Furthermore, romantic support can not only significantly predict the level of self-differentiation, but can also weaken the negative influence that low levels of responsive parenting have on self-differentiation (Freeman & Almond, 2009).

However, the peer experiences of single participants differ from those in a romantic relationship, especially in early adulthood, since the romantic relationships which main purpose is to accompany in early adolescence do not achieve their full function until early adulthood (Furman & Wehner, 1994). According to the interdependence theory, an individual keeps close company with his or her romantic partner at the expense of existing relationships because of limited resources (Thibaut & Kelley, 1959). Furthermore, empirical findings suggest that the development of romantic relationships may change the peer network. For instance, young people in a romantic relationship report spending an increased amount of time and energy interacting with their romantic partners and a decreased amount of time interacting with their peers. It is easier for single individuals to obtain greater support from their peers and have less discord within their friendships (Jennifer, 2012). More specifically, romantic partners begin to surpass parents and peers as the primary source of support during early adulthood (Seiffge-Krenke, 2003; Connolly, Furman, & Konarski, 2000). From the perspective of attachment figures, single young adults have friends, parents, and siblings as their attachment figures. However, young adults in a romantic relationship preferred their romantic partners over friends; hence, the romantic partner is particularly important for those in a romantic relationship. It is plausible to assume that the moderating effect of peer relationships on the association between parent–youth relationships and self-differentiation may be weaker in individuals in romantic relationships because of the declining importance and increasingly negative features of peer relationships for these individuals.

The concept of self-differentiation was derived in Western countries, which advocate independence and autonomy in the context of individualism. However, in China, the idea of separation from the family is not generally supported. In Chinese family culture, the psychological feelings of individuals always keep bond with their families throughout their lives. Cross-cultural studies show that parents of adolescents in Chinese societies tend to report lower support for autonomy and a greater degree of psychological control than parents in Western societies (Lekes et al., 2010). Given the importance of filial piety in China, there may be a greater focus on the concept of young people fulfilling their responsibilities to their parents (Pomerantz, Qin, Wang, & Chen, 2011). Consequently, it is possible that Chinese adolescents pay more attention to the connection with their parents, and tend to be oriented more toward compliance and authority (Smetana, Wong, Ball, & Yau, 2014). In contrast, Blos (1979) stressed that teenagers need to remove their family dependence to develop into independent individuals in the adult world. Despite these differences between Eastern and Western cultures, it is important for Chinese young adults to experience independent feelings while maintaining an emotional bond with their families. In traditional Chinese culture “severe father and

kind mother", the father and mother have different roles in educating and establishing relationships with their children, with mothers reported to show excessive protection and higher levels of emotional warmth than the father (Ren, 2014). Similarly, adolescents in mainland China rated their fathers higher for strictness of punishment and their mothers higher for warmth and love (Liu et al., 2013). Existing studies may have overgeneralized the effect of parent–youth relationships on self-differentiation, and it appears that no study has examined the independent effects of the mother and the father on self-differentiation.

As described, parent–youth relationships are one of the most dominant determinant of self-differentiation. Positive parent–youth relationships contribute to develop a higher level of self-differentiation. According to Bronfenbrenner's ecosystem theory, except that parent–youth relationships are one of microsystems under the environment of growth, peer relationships are another microsystem. Interactions between these microsystems typically influence many important aspects of individual developmental outcomes. Thus, we propose that the interaction between parent–youth relationships and peer relationships will affect the level of self-differentiation. Specifically, positive peer relationships can buffer the negative effect of negative parent–youth relationships on individual development. We expect that the relationship between negative parent–youth relationships and self-differentiation will be weaker in groups with positive peer relationships. Besides, the development of romantic relationships may change the peer network. Generally speaking, it is easier for single individuals to obtain greater support from their peers and have less discord within their friendships (Jennifer, 2012). Furthermore, romantically involved youth whose attachment needs from their parents are not met may be likely to consider romantic partners as an alternative source of social and emotional support, rather than peers (Furman & Simon, 2006). Accordingly, the moderating effect of peer relationships on the association between parent-youth relationships will be shrinking. Under the influence of traditional Chinese family culture, however, the father and mother have different roles and effects during the growth of their children. Investigating the independent effects of the mother and the father on self-differentiation is an important perspective in our study. Therefore, we proposed the following hypotheses:

H1: Peer relationships moderate the relationship between father–youth relationships/ mother–youth relationships and self-differentiation: The positive relationship will be stronger when peer relationships are negative.

H2: Romantic relationship status influences the moderating effect of peer relationships. Specifically, the moderating role of peer relationships on the association between father–youth/mother–youth relationships and self-differentiation is proposed to be statistically significant only for romantically uninvolved participants and not for romantically involved participants.

2. Method

2.1. Participants

Overall, 389 undergraduates were randomly chosen from 5 classes at a large university located in Northwestern China. We contacted with the teachers of those classes in advance, making sure that we could take 15 minutes to investigate those students during the class. The mean age of the sample was 20.45 (SD=1.63). The final sample included 203 males and 181 females. Five participants did not report their gender, 96 were freshmen, 105 were sophomores, 113 were junior students, and 70 were senior students. Furthermore, 5 participants did not report their grade level, 116 participants were in romantic relationship, and 273 were not involved in a romantic relationship. All participants signed a written consent form. Participation was anonymous, and participants were assured of the confidentiality of their responses.

2.2. Measures

2.2.1. Differentiation of Self Inventory (DSI). DSI was used to assess self-differentiation (Skowron & Schmitt, 2003). The Chinese version of DSI was adapted by Wu and Wang (2010). This scale consists of 27 items and includes four different subscales, Emotional Reactivity, "I" Position, Emotional Cutoff, and Fusion with Others. For each statement, participants were asked to rate how they generally feel on a 6-point Likert scale ranging from "not at all true of me (1)" to "very true of me (6)", with higher scores indicating a greater

level of differentiation. The full-scale in this current study had a good internal consistency ($\alpha=0.90$), and the four subscales used in this study showed good reliability, ranging from 0.69 to 0.82.

2.2.2. Network of Relationships Inventory: Relationship Qualities Version (NRI-RQV). The relationships with mother, father, peers, and current romantic partner were assessed using the NRI-RQV (Buhrmester & Furman, 2008). The Chinese version of NRI-RQV was adapted by Kong (2012). This 30-item questionnaire measures five positive relationship features (companionship, disclosure, emotional support, approval, and satisfaction) and five negative features (conflict, criticism, dominance, pressure, and exclusion), which are aggregated into two composite scores, closeness and discord. The participants rated how much of each quality they experienced in the relationship with each person, ranging from “little or none (1)” to “the most (5)”, with higher composite scores indicating a higher level of closeness or discord. In this study, Confirmatory Factor Analysis (CFA) was used to ensure the reliability and validity of these four questionnaires for Chinese undergraduates. The results indicated an acceptable fit of the four questionnaires: Father–youth Relationship Quality (RMSEA=0.07;AGFI=0.81;GFI=0.85;NFI=0.82); Mother–youth Relationship Quality (RMSEA=0.07;AGFI=0.80;GFI=0.85;NFI=0.82); Peer Relationship Quality (RMSEA=0.05;AGFI=0.86;GFI=0.89;NFI=0.84); and Romantic Relationship Quality (RMSEA=0.07;AGFI=0.82;GFI=0.84;NFI=0.83). These four questionnaires in the study showed good the internal consistency reliability coefficients for closeness (range from 0.91 to 0.93) and discord (range from 0.80 to 0.83).

2.2.3. Romantic status. Participants were asked “Do you currently have a boy/girlfriend?” on their questionnaires. Participants were considered as currently being in a romantic relationship if they answered “Yes”, regardless of relationship duration.

2.3. Statistical analysis

The data analyses were performed using SPSS 19.0. The participants whose questionnaires contained missing values were excluded from the final database. Confirmative Factor Analysis (CFA) was used to assure the reliability and validity of the revised Relationship Quality Version for Chinese undergraduates. The relationships among father–youth relationships, mother–youth relationships, and peer relationships were tested using Pearson correlation analysis and regression analyses. How romantic relationship status affects the moderating effect of peer discord on associations between father–youth discord and self-differentiation were assessed using Amos 21.0.

3. Results

3.1. Correlations among variables

Table 1 presents the bivariate Pearson correlations between the main study variables and self-differentiation for romantically uninvolved and romantically involved participants. For both groups, significant positive correlations were found between self-differentiation and father–youth closeness/mother–youth closeness (correlation coefficients ranging from 0.12 to 0.24). However, the correlation between self-differentiation and peer closeness was significant only among romantically uninvolved participants. Significant negative correlations between self-differentiation and father–youth discord, mother–youth discord, and peer discord were found for both groups. We subsequently examined the role of romantic relationship status in the correlations between self-differentiation and father–youth relationships, mother–youth relationships, and peer relationships. We found a significant effect of romantic relationship status in relation to peer discord ($Z=1.90$, $p<0.10$). The correlation between self-differentiation and peer discord was weaker for romantically uninvolved participants than for romantically involved participants.

Table 1. Correlations between variables and self-differentiation for romantically uninvolved and romantically involved participants

Variable	Relationship status		Z
	Involved (n=273)	Involved (n=116)	
father-youth closeness	0.14*	0.24*	-1.00
father-youth discord	-0.26*	-0.27*	0.09
mother-youth closeness	0.12 [†]	0.20 [†]	-0.82
mother-youth discord	-0.25*	-0.35*	1.00
peer closeness	0.19*	0.08	-0.73
peer discord	-0.18*	-0.37*	1.90 [†]

Note. N=389. [†]p < 0.10; *p < 0.05.

3.2. Regression analyses for variables predicting self-differentiation

Linear regression was conducted to investigate how well peer relationships and romantic relationships predicted self-differentiation. As shown in Table 2, the results revealed that the predictive ability of romantic discord for self-differentiation was stronger than that of peer discord. Furthermore, romantic closeness significantly predicted self-differentiation, whereas peer closeness did not. These results indicate that romantic relationships predicted self-differentiation better than peer relationships.

Table 2. Regression analyses for variables predicting self-differentiation

Predictor	R ²	ΔR ²	Standardized coefficient β	T
peer discord	0.14	0.14	-0.23	-2.25*
peer closeness	0.14	0.01	-0.05	-0.47
romantic discord	0.18	0.04	-0.24	-2.40*
romantic closeness	0.20	0.03	0.19	2.00*

Note. N=389. * p < 0.05.

3.3. Romantic relationship status affects the moderating role of peer relationships

Multiple-group confirmatory factor analysis (CFA) was conducted to investigate whether romantic involvement affected the moderating role of peer relationships on the association between parent–youth relationships and self-differentiation. Because father–youth relationships, mother–youth relationships, and peer relationships were each assessed via two composite scores (closeness and discord), eight structural equation models were formed. These can be summarized as the moderating model of peer closeness (discord) on the associations between father–youth relationships and self-differentiation, and the moderating model of peer closeness (discord) on associations between mother–youth relationships and self-differentiation. The baseline multiple-group model (model 1) had no equality constraints on parameters across romantically uninvolved and romantically involved participants for each structural equation model.

Those models obtained an acceptable fit. The nested model (model 2) assumed that factor loadings were the same across romantically uninvolved and romantically involved participants for each structural equation model. The results showed significant interactions between peer discord and father–youth discord. Model 1 of the moderating effect of peer discord on associations between father–youth relationships and self-differentiation showed an acceptable fit ($\chi^2=426.25(170)$; GFI=0.88; CFI=0.89; AGFI=0.83; RMSEA=0.06). The difference between model 1 and model 2 was statistically significant ($\Delta\chi^2(14)=37.38$, $p<0.01$); no differences were found for the other seven structural equation models.

The standardized factor loadings for the structural equation model with unconstrained parameters showed that the interaction effect between peer discord and father–youth discord was not significant for romantically involved participants ($\gamma=0.22$, $SE=0.02$, $p=0.13$). However, the interaction effect between peer discord and father–youth discord was significant for romantically uninvolved participants ($\gamma=0.20$, $SE=0.01$, $p<0.05$), as illustrated by the structural equation model in Figure1.

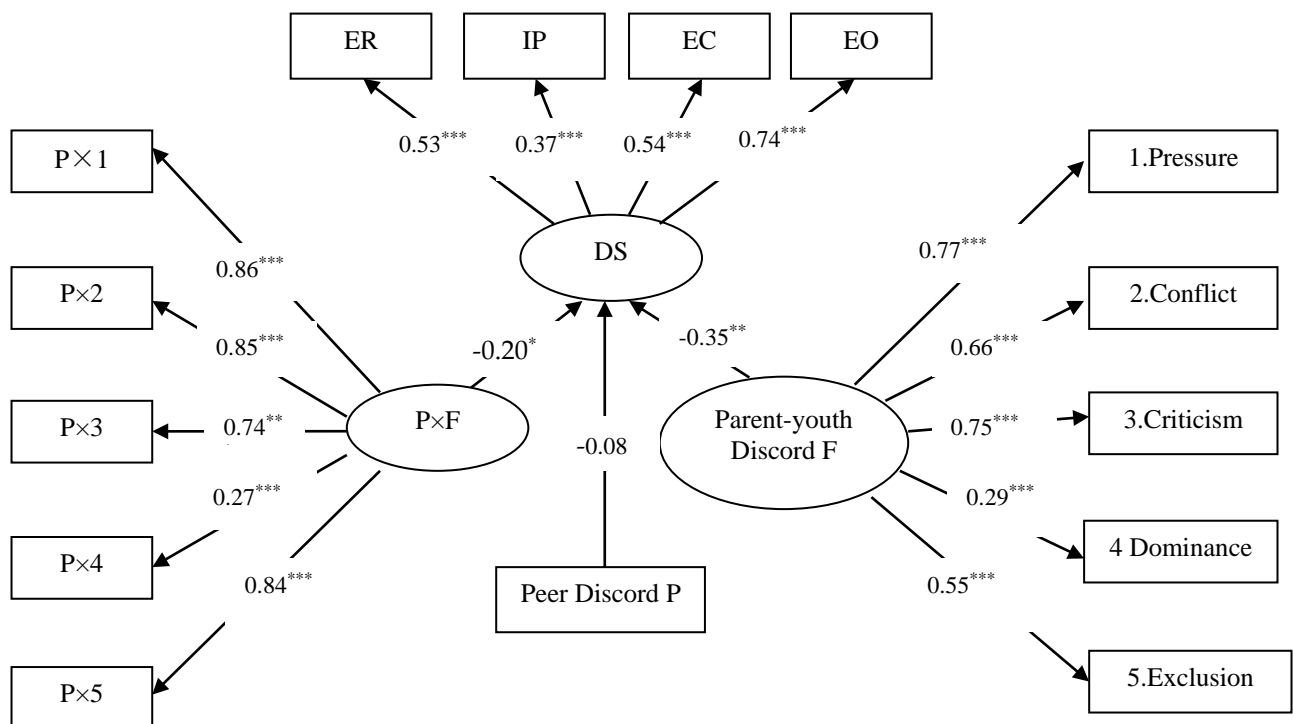


Figure 1. Moderating effect model of peer discord

Notes. ER= Emotional Reactivity; IP=“I”Position; EC= Emotional Cutoff; EO= Fusion with Others; DS= self-differentiation. N=389.

* $p < 0.05$; ** $p < 0.10$; *** $p < 0.001$.

4. Discussion

In this study, we investigated the relationship between self-differentiation and peer relationships among romantically uninvolved and romantically involved participants. The results showed that the correlation between self-differentiation and peer closeness was significant for romantically uninvolved participants but was not significant for romantically involved participants. This suggested that greater peer closeness was associated with greater self-differentiation among romantically uninvolved participants, whereas the level of self-differentiation did not increase as much with the level of peer closeness in romantically involved participants. This is presumably because undergraduates in romantic relationships spend more leisure time with and provide greater emotional support to their romantic partners, thereby impairing the function of peer closeness. The results also showed a significant negative correlation between self-differentiation and peer discord, and that this effect was stronger for romantically involved participants. This may be because peer discord was higher for romantically involved participants (Jennifer, 2012). The results further showed

that peer relationships were different for romantically uninvolved and romantically involved participants. Lastly, we used regression analyses to examine whether peer relationships and romantic relationships predicted self-differentiation. The results showed that romantic relationships had a greater effect on self-differentiation than peer relationships. Specifically, romantic discord had a greater effect on self-differentiation than peer discord and romantic closeness significantly predicted self-differentiation, whereas peer closeness did not. It appears that, in early adulthood, romantic relationships are not limited to the need for company, as peer relationships are, but also contain some of the attachment qualities of parent–youth relationships (Meeus et al., 2007). Thus, the results suggest that the effect of a romantic relationship is more important for those in such a relationship than peer relationships.

One of the main goals of our research was to investigate the moderating effect of peer relationships on the links between father–youth/ mother–youth relationships and self-differentiation. Consistent with the buffering hypothesis, peer discord appears to protect against risks associated with high levels of father–youth discord. Specifically, college students with lower levels of peer discord had weaker associations between father–youth discord and self-differentiation. This suggests that negative parent–youth relationships do not necessarily lead to low levels of self-differentiation, because the latter also depend on peer relationships. This may be because there are similarities between peer relationships and parent–youth relationships in terms of emotional support and instrumental help (Laible, Carlo, & Raffaelli, 2000). Furthermore, previous research showed that teenagers whose attachment needs were not met in their families are more likely to consider their peers a substitute for emotional support (Freeman & Almond, 2009). Thus, when one relationship is negative, another positive relationship can buffer and compensate for the adverse effects on individual development. However, peer relationships did not moderate the association between mother–youth relationships and self-differentiation, suggesting that the effects of father–youth relationships on individual development are different from those of mother–youth relationships, which may reflect the traditional Chinese culture of a “severe father” and “kind mother”. Notably, a major goal of our study was to investigate whether romantic relationship status influenced the moderating effect of peer relationships, and this hypothesis was supported. The results showed that romantic relationship status significantly altered the moderating effect of peer discord on associations between father–youth discord and self-differentiation, suggesting that reduced peer discord functioned as a protective factor only for single college students. These findings verified the interdependence theory; namely, that the development of romantic relationships may affect peer relationships. Our results can be explained by the primary and secondary order of attachment objects. Specifically, after establishing a romantic relationship, the peer may become the secondary attachment object, and the romantic partner may turn into the main attachment object (Planitz, Feeney, & Peterson, 2009). Thus, the emotional support and need for company that characterize peer relationships may be replaced and impaired by romantic relationships, and the peer relationships may thereby fail to provide alternate resources when the parent–youth relationship is negative.

In regard to the implications of those findings, our results will assist educators, parents, and teachers with potential interventions designed to increase the levels of self-differentiation in Chinese college students. The influence of romantic relationship status on the moderating effect of peer relationships on associations between parent–youth relationships and self-differentiation suggests that an individual’s interpersonal context should be considered when intervening in cases of low self-differentiation.

There are several limitations to this study. First, the same scale was used to measure parent–youth relationships, peer relationships, and romantic relationships. Although there is considerable overlap between the three types of relationship, many differences exist. For instance, only romantic relationships include sexual intercourse. Tools designed specifically for the different types of interpersonal relationship may be useful in future research. Second, the study participants did not include high-school students. Romantic relationships among high-school students may have distinguishing features. Future research could adopt an appropriate approach to explore these relevant questions in high-school students.

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Teaching Communicate With Adolescents to Mothers And Emotion Regulation On Adolescents' Stress And Depression

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ABSTRACT

The purpose of this study was to determine the effectiveness of teaching communicate with adolescents to their mothers and the methods of emotion regulation to adolescents on reducing stress and depression in adolescents of Eshkanan city. This study was a quasi-experimental research. The statistical population of this study consisted of students and their mothers. Sampling was performed by available sampling method and 40 mothers and 40 girls entered in study and replaced in two experimental (n = 20) and control (n =20) groups. The research instruments were adolescent depression (2000), the adolescent stress (2000), and questionnaires. The data was analyzed by descriptive and inferential statistics. The mean and standard deviation of the descriptive statistics, statistical analysis using SPSS and repeated measures analysis of inferential statistics were used to examine the hypotheses. The results showed that teaching communicate with adolescents to mothers and teaching the methods of emotion regulation to the adolescents were effective on reducing adolescents stress and depression during the time.

Keywords:

Depression; stress; emotion regulation; communication with adolescents

1.Introduction

Stress and depression are serious problems for many teenagers. Stress is characterized by feelings of tension, frustration, worry, sadness and withdrawal that commonly last from a few hours to a few days. Depression is both more severe and long-lasting. Depression is a common mental disorder that presents with depressed mood (e.g., feelings of sadness, loneliness, and crying), loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration.

Over the past years, more and more evidence has shown that depression is a serious mental health issue that can affect even very young children (Shugart & Lopez, 2002). Depression may adversely affect an individual's academic achievement, social and familial relationships, contribute to health problems, and increase his or her risk for suicide and substance abuse.

Given the prevalence of depression and the problems it creates, investigators have spent a great deal of effort to identify factors that may be useful for improving its detection and diagnosis. Factors affecting development and predisposition to depression are numerous (Hankin, 2006). Biomedical and psychosocial risk factors include a family history of depression, female sex, childhood abuse or neglect, stressful life events, and chronic illness.

In Iran, studies have shown that depression with a prevalence of 3.8% is on the top of the mental disorders and 21% of population suffers from this disease (Noorbala et al, 2004). A meta-analysis of the studies showed

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that the prevalence of children and adolescent depression in Iran was 15.87 % using SCL-90, 43.55% using the BDI, and 13.05% using CDI (Sajjadi et al., 2013).

Adolescence is a time of many changes and challenges. Developing bodies, social and academic stresses make a difficult period for many teens. This developmental period is also challenging to families. Some reasons include an increase in conflicts between parents and young adolescents (Hill, 1987; Noller, 1995), and a general trend in health-risk behavior such as tobacco use and sexual activity historically associated with older ages appearing among increasingly younger teens (Benson, 1997; Blum & Rhinehart, 1998; Finke, et al 1996; Loveland-Cherry, et al. 1999; Pfiffer, 1995).

Investigations have demonstrated that families function best during adolescent development when families are adaptable and cohesive (Gaughan, 1995; Green et al. 1991; Henggler, et al. 1991; Olson, 1994).

Positive communication can greatly help young people establish individual values and make healthy decisions. Studies show that young people who feel a lack of parental warmth, love or care were more likely to report emotional distress, school problems, drug use and sexual risk behaviors (Resnick et al., 1997; Karofsky, et al. 2001). Riesch and his colleagues (1993) showed that Young adolescents, mothers, and fathers who were trained in communication skills reported increased satisfaction with the family system and open communication immediately and 6 months after training.

Depression is characterized by alterations in emotional functioning, including depressed mood (American Psychiatric Association, 2000). A number of authors have suggested that these alterations may be conceptualized as deficits in emotion regulation (Campbell-Sills & Barlow, 2006; Gross & Munˆoz, 1995; Kovacs, et al. 2008; Kring & Werner, 2004).

Emotions are commonly believed to play an important role in shaping human beings' behaviour. Human beings are endowed with the ability to regulate their emotions, in order to achieve a more appropriate mode of functioning (e.g., Gross, 1998; Gross, 2001; Ochsner and Gross, 1997). Emotion regulation has been conceptualized as a processes humans undertake in order to modify their emotional experiences, expressions, and physiology and the situations eliciting such emotions in order to produce appropriate responses to the ever-changing demands posed by the environment. The strategies people use to regulate their emotions, and in particular negative emotions, appear to be strongly linked to several psychopathologies, such as depression. Learning how to regulate one's emotions is an important challenge, which has received considerable attention in various domains.

Gross (2001, p.215) defines emotion regulation as follows: 'Emotion regulation includes all of the conscious and unconscious strategies we use to increase, maintain, or decrease one or more components of an emotional response'. The components considered are (1) the experiential component, (the subjective feeling of the emotion), (2) the behavioural component (behavioural responses), and (3) the physiological component (responses such as heart rate and respiration). According to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV; American Psychological Association, 1994), a disturbance in one's emotion regulatory system may be associated with the development of certain mental health problems (Sumida, 2010).

Emotion regulation leads to individuals being able to inhibit undesirable or painful emotions and enhance desirable or pleasant emotions. By learning these adolescents can attempt to suppress their emotions and attempt to reappraise the situation. Some clinical researches have demonstrated that inappropriate emotion regulation is an important component in the development of depression and anxiety disorders (Barlow, et al, 2004; Mennin, 2006). Radkovsky, McArdle, Bockting, and Berking (2014) found successful emotion regulation skills application was associated with lower levels of depressive symptom severity.

The purpose of this study was to determine the effectiveness of teaching communicate with adolescents to their mothers and the methods of emotion regulation to their adolescence on reducing stress and depression in adolescents of Eshkanan city. Research hypothesis was:

Teaching communicate with adolescents to mothers is effective on reducing adolescents' stress and depression.

Teaching the methods of emotion regulation to adolescents is effective on reducing adolescents' stress and depression.

2. Method

This was a quasi-experimental study. A non-random, two-group, pre-test /post-test with follow-up study design was used. Participants in both the intervention and control groups completed the questionnaires. The intervention group also participated in the training programs.

2.1. Statistical Population, Sample and Sampling Method

The statistical population of this study consisted of students and their mothers in the 2013-2014 school years. Sampling was performed by available sampling method and 40 mothers and 40 girls entered in study and replaced in two experimental (n =20) and control (n =20) groups.

2.2. Measures

Kutcher Adolescent Depression Scale. It is a psychological self-rating scale developed by Kutcher. It has 11 items and responses are scored on a 4-point scale. There are ten questions about depression symptom frequency that the patient rates on a straight 4 point scale according to the following choices: "hardly ever," "much of the time," "most of the time," "all the time," and one question relating to the severity of suicidal ideation. Scores on the test range from 0 to 33. Unlike some rating scales, there is no threshold for sub-clinical presentation, or ranges for mild, moderate, and severe symptoms. Higher scores simply indicate more severe current depression symptoms (Brooks, et al, 2003). In the present study, internal consistency was assessed. Cronbach's alpha for the present sample was .83.

Adolescent stress was assessed using the adolescent stress questionnaire (ASQ-N), developed and validated by Byrne, Davenport and Mazanov (2007). This is a 58-item questionnaire concerning common adolescent stressors assessed during the last year and rated on a 5-point Likert scale: 1 (not at all stressful or is irrelevant to me); 2 (a little stressful); 3 (moderately stressful); 4 (quite stressful); and 5 (very stressful). The 58 items on this checklist were grouped into 10 stress component scales: stress of home life, school performance, school attendance, romantic relationships, peer pressure, teacher interaction, future uncertainty, school/leisure conflict, financial pressure and emerging adult responsibility. Cronbach's alpha for the stress in the present study was .95.

2.3. Procedure

This study was a quasi-experimental design based on pre-test, post-test with control group. The statistical population of this study consisted of students and their mothers in the 2013-2014 school years in Eshkanan city. Sampling was performed by available sampling method and 22 girls along with their mothers entered in study and they were randomly assigned to two groups: experimental group (n = 20 girls with their mothers) and control group (n = 20 girls with their mothers). All the children completed depression and stress questionnaires and then during a period of 1 month (seven 90-minutes sessions) the experimental group received training sessions (teaching communicate with adolescents to mothers and teaching the emotion regulation methods to adolescence). This happened while the control group was placed in waiting list. Training, for each experimental group, consisted of 7 sessions (each session was 90 minutes) which were held during the course of 4 weeks. All sessions were held 2 times per week. Again, after holding the sessions all children completed the questionnaires. Measures were completed at the first and last sessions and in a follow-up session after one month. The sessions were held in a child depression disorders specialty clinic. Entry criteria for the study included literate mothers (at least primary education), students without major psychological problem, and mothers and students who were able to consistently attend in training sessions. Each session began with review of the prior session' lessons, and examination of successes and failures in trying the techniques. Each session closed with homework assignments. A summary of the period and more detail about the communication training program based on Tanenn (2006), is below:

Session 1:

Introducing the therapist and the participants, make communication between therapist and participants, explaining the purpose of sessions, giving Information about adolescents and their characteristics, Expression

the importance of communicating with adolescents and also teaching communicate with adolescents to participants, Performing pretest.

Session 2:

Expression the techniques for establishment of better communication; listen to them listen without judgment or reaction; do not worsen the situation; do not emphasize more than is needed; avoid lecturing.

Session 3:

Expression the techniques for mutual talk to adolescents. In this session, seven techniques of mutual talk to adolescents were taught: Be a good listener; respect his/her privacy; give her/him more autonomy; when making a mistake, accept your fault and apologize; avoid lecturing, nagging, blaming, and comparing; never reveal his/her personal and private issues to others; avoid asking questions.

Session 4:

Expression the techniques for conflict resolution with adolescents; Use the word "I" instead of "you" If you accuse him/her, make it clear; explain why this behavior makes you sad or angry; do not mention previous problems or arguments; never humiliate his/her emotions; ask your teen to suggest final solution for the issue made a mistake? Admit it!

Session 5:

Expression the techniques to specify the Fair and reasonable limitation for the adolescents; be decisive; talk briefly; write down all the significant rules to remember them better when say them; the responsibilities and rights of the adolescents are changing.

Session 6:

It was said that an effective punishment is neither lenience nor intense but it should fit the guilt.

Session 7:

A reassessment was done by performing the post-test and the participants were helped to plan for utilizing the tutorials (instructions) in life.

Session 8:

Overall evaluation with following- test.

A summary of the period and more detail about the emotion regulation training based on Macklem (2007) is below:

Session 1:

The therapist introduced him/herself. He/she asked the participants to introduce themselves; he/she familiarized the members with the process and asked them to make a commitment to attend the 7 sessions. Then the pretest was run. With regard to various changes at the age of adolescence, communication may suffer some problems. In this informative session about the adolescence stage, the characteristics of a teenager and the type of parental communication with them have been taught.

Session 2:

Review the homework of before session, performance measurement, giving Feedback and expressing the definition of emotion and emotional experiences, determining what kind of circumstances create what kind of emotions. It was stated that what the emotion is, which event has motivated this emotional state, and emotional experiences will be classified into several dimensions. The participants were taught to acknowledge their emotions.

Session 3:

The participants were taught: Determine the thoughts, which cross their minds at the time of emotional state; determine the confirming and rejecting evidence for the thoughts or the events, which caused a special

emotional out-break; determine new evidence so they can have more accurate and logical view compare to their prior perspective toward the issue.

Session 4:

Awareness of emotions; take into account different alternatives to carry out when they experience different emotion especially negative emotion, undertake one of the alternatives.

Session 5:

Identifying the ideas which cause negative emotions; identifying egocentric beliefs and eliminating them to avoid negative emotions and distracting thoughts; identifying egocentric beliefs about themselves and eliminating them; replacing useless beliefs with logical beliefs.

Session 6:

Expressing the ideas which lead to worsening emotions; identifying and avoiding negative ideas which are originated in "feeling of being inadequate"; identifying and avoiding negative ideas which are rooted in "fear"; identifying and avoiding negative ideas which are rooted in other complicated emotions.

Session 7:

The list of group and individual goals was provided; the degree of achievement to any of the objectives, graded on a scale from 0 to 10; the success of each participant toward achieving group and individual goals was emphasized and encouraged by the participants; to utilize skills in real world, a practical program was suggested by the participants and the steps of the process were determined. Each of the participants, considering his/her conditions, regulated his/her own special schedule. All the participants have made a commitment to perform the regulated schedule. Performing post- test.

Session 8:

Giving and taking feedback, overall evaluation, performing following test.

3. Results

To examination the research hypothesis data was examined in two steps. The first step was to calculate mean and standard deviation of stress and depression scores in pretest, posttest and follow-up for control and experimental groups. Repeated measures analysis was conducted to control pretest scores in adolescents' stress and depression and to examine significance difference between experimental and control groups in adolescents' stress and depression means.

Tables 1, 2 and 3 show the results of descriptive statistic and repeated measure analysis to examine the efficacy of communication with adolescents training to mothers and emotional regulation training to adolescents on decreasing stress and depression among adolescence girls in pretest, posttest and follow- up.

Table 1. Means and standard variations of stress and depression among adolescence girls in pre, post and follow- up tests based on groups

Type of group	Source of changes	M	SD	N
	Pretest stress	158.09	5.26	11
	Posttest stress	112.45	46.74	11
	Follow up stress	118.18	40.14	11

Experimental group	Pretest depression	8.45	7.09	11
	posttest depression	2.45	1.96	11
	Follow up depression	4.54	3.88	11
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Control group	Pretest stress	206.45	24.60	11
	Posttest stress	175.36	68.95	11
	Follow up stress	204.36	29.77	11
	Pretest depression	10.36	7.65	11
	posttest depression	9.36	6.42	11
	Follow up depression	11.18	17.18	11
	<hr/>			

The results of Levin and Box to examine variance and covariance equivalence of stress and depression and showed, the use of measure repeated analysis was possible. Table 2 shows the result of Muchly test.

Table 2. The results of Muchly test to examine covariance equivalence of dependent variables in three steps of measuring in total

Source of changes	F	df ₁	df ₂	p
Stress	.834	3.43	2	.179
Depression	.762	5.16	2	.076

Table 3. Result of repeated measure analysis.

Variables	Source of changes	SS	df	MS	F	p	Eta	Power	
Stress	Factor 1	1623.939	2	8118.970	5.99	.005	.230	.856	
	Within Group	Factor 1*	4002.909	2	2001.455	1.477	.241	.069	.297
	Error	54219.152	40	1355.479					
	BetweenGroup	Group	71478.545	1	71478.545	18.895	.000	.486	.985
		Factor 1	135.36	2	67.68	3.78	.031	.159	.657

Depression	Within Group	Factor 1*	86.93	2	43.47	2.43	.101	.108	.461
		Error	715.03	40	17.876				
	BetweenGroup	Group	437.87	1	437.87	5.88	.025	.225	.636

As regard to table 3, the effect of time is significant in decreasing stress. It means, the means of stress scores have significantly differenced from pretest, posttest to follow up in total ($p = .005$). Also, the effect of group membership is significant in decreasing stress. It means, stress means between girls in control and experimental groups after training to mothers and her daughters have significantly changed ($p = .000$). The interaction between time and group membership is not significant in decreasing stress ($p = .241$). As regard to table3, the effect of time is significant on decreasing depression. It means, the means of depression scores have significantly differenced from pretest, posttest to follow up in total ($p = .031$). Also, the effect of group membership is significant in decreasing depression. It means, depression means between girls in control and experimental groups after training to mothers and her daughters have significantly differenced ($p = .025$). The interaction between time and group membership is not significant in decreasing depression ($p = .101$).

4. Discussion

The purpose of this study was to determine the effectiveness of teaching communicate with adolescents to mothers and the methods of emotion regulation to adolescents on reducing stress and depression in adolescents of Eshkanan city. The results showed that teaching communicate with adolescents to mothers and teaching the methods of emotion regulation were effective on reducing adolescents stress and depression during the time. This is consistent with previous findings (e.g. Jafari, Yousefi, & Manshaee, 2014; Berking, Ebert, Cuijpers, and Hofmann, 2013; Compareet al., 2014; Ehret, Kowalsky, Rief, Hiller and Berking, 2014; Martin & Dahlen, 2005; Radkovsky, McArdle, Bockting, and Berking, 2014; Sumida, 2010).

In clarification of this findings that whether teaching mothers the establishment of communication with adolescents and teaching adolescents the adjustment of emotions could reduce the degree of stress in adolescents, it can be noted that since one of the everyday stresses of adolescents might be related to the types of relationships and disagreements they have with their mothers. Close relationships with adolescents can be a protective factor against poor outcomes. In contrast, conflict, poor communication, and lack of emotional warmth in family can lead to adolescent depression

Therefore, teaching of learning to communicate through teaching small tips could reduce the number of these conflicts and normally could have more positive effect on the reduction of adolescents' stress and depression. These tips are as follows: 1) techniques for establishment of better communication, 2) techniques for possessing mutual relationships with the adolescents, not one way relations, 3) techniques for resolution of conflicts with the adolescents, 4) techniques in order to adjust fair and wise restrictions for them, 5) change the type of parental punishment into a more efficient one, on the other hand, in regulate of emotions these tips have been taught: 1) the nature of emotions, emotional experiences and the dimensions of them, 2) identification of thoughts which cross one's mind in the time of emotional out-break, determining new evidence for having logical and more accurate insights compare to earlier ones toward the issue, 3) taking measures with awareness toward emotions, 4) Identifying the beliefs and negative ideas that causes negative emotions, in addition, replacing them with logical beliefs, 5) identifying ideas that could worsen emotions, accordingly it can be seen that adolescents have actually learned how to manage their emotions including anger, moreover, this could improve the relationship between mothers and adolescents and eventually reducing adolescents' stress and depression.

The activation of positive emotions can play a fundamental role in breaking the stress cycle by effectively transforming stress at its source (Snyder, and Lopez, 2002). In addition, positive emotions influence

interpersonal behavior and promote helpfulness, cooperation and generosity. In other words, positive emotions play an important role in effective adaptation to life's challenges (Fredrickson, 2001; cited by Compare, Zarbo, Shonin, Van Gordon, and Marconi, 2014) that leads to reduce of stress and depression in adolescents.

Limitation and Suggestion for Future Study

One of the significant limitation of this study is that it was conducted among the student girls in a small city of Iran and the sample was too small that reduces the generalizability and comparability of results to other populations. So, it may be beneficial to attempt to repeat this study in other populations. The use of available and normal population is another limitation of this study. It would be useful to carry out a similar study with clinical populations who seek out treatment for their depression.

The information from such study can make a significant contribution to improve emotion regulation focus treatment for clinical depressing.

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Interdependent Cross-Age Peer Tutoring in Mathematics

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ABSTRACT

Peer tutoring is a form of structured peer learning technique. This study develops and tests a new form of peer tutoring technique, 'Interdependent Cross-Age Peer Tutoring' (ICAT). The method is informed by the 'what works literature' within peer tutoring and brings together crucial elements which have been shown to provide high effect sizes. Specifically, ICAT consists of an autonomous/informative structure, with students setting their goals in a cross age peer tutoring mathematics context. ICAT was implemented for six weeks in three different schools across England, with teachers concentrating on teaching their planned topics. School A (n=95) Year 8 students tutored Year 6, school B (n=65) Year 9 tutored Year 7, and school C (n=44) Year 10 students tutored year 8. Schools A and B adopt a pre/post-test quasi-experimental design and school C adopts a single group pre/post-test design. Research made instrument were applied to measure tutees performance gains. Classroom and paired observation were conducted for each school and the ICAT lesson materials for the six weeks were analysed to establish intervention fidelity. School A showed the highest ICAT implementation and effect size, 0.92, significant at ($p < .001$). However the findings should be interpreted with caution due to a weak research design.

Keywords:

Social Interdependence Theory, Cross-age Peer Tutoring, Mathematics

1. Introduction

Meta-analyses have continually shown that cooperative group learning is an effective educational intervention (Johnson & Johnson 1989; Roseth, Johnson & Johnson 2008, Rohrbeck, Ginzburg-Block, Fantuzzo & Miller, 2003; Ginzburg-Block, Rohrbeck & Fantuzzo, 2006). Also, meta-analyses for students of ages 4-18 in peer tutoring have also shown to provide high effect sizes (Cohen, Kulik & Kulik, 1982; Leung, 2014; Zeneli).

Topping and Ehly (1998) provide elaborative peer tutoring typology. However, it can be broadly defined as a specific branch of peer learning in which students work on academic subjects in small groups, in which one or two students take the tutor or the tutee roles.

Abrahami et al., (1995) conclude that overall theories have tried to explain cooperative learning by concentrating on two elements: on students' motivation or on students' learning, and they provide an extensive 'organisational model' to understand and implement cooperative learning effectively. At the heart of the 'organisational model' is Social Interdependent Theory. The theory states that although having a peer learning strategy which concentrates on learning process is necessary to raise students' outcomes, - as Web (1989, 1992) and Topping and Ehly (2001) have argued, - motivating the peers to cooperate together and to learn is a precondition (Johnson, 1990; Johnson & Johnson, 1987; 1989; 2005; Johnson, Johnson, Holubec & Roy, 1984).

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Johnson, et al., (1984) identify four main cooperative skills levels that students need to be taught when working together; 1) forming, 2) functioning, 3) formulating and 4) fermenting skills. While the first and the second level deal with classroom arrangements, social and communication skills and motivation the last two levels concentrate mainly on learning skills such as seeking help, providing explanations, cognitive construction or knowledge reconstruction. At the heart of the theory are the ideas that formulating and fermenting skills are difficult to achieve without forming and functioning skills as well as applying social interdependent elements, such as reward interdependence, goal interdependence, task interdependence, role and interpersonal interdependence.

The following are some popular peer tutoring interventions:

1.1 Class-wide peer tutoring (CWPT)

There are at least 8 elements in a CWPT method; 1) Same-age and 2) similar-ability pairing, 3) reciprocity between peers, 4) structure, 5) method training, 6) group goal, 7) group contingency, and 8) scripts with instructions and answers (Arreaga-Mayer, Terry & Greenwood, 1999). Beyond these 8 elements, CWPT has incorporated elements such as 'praise' and different cognitive or meta-cognitive strategies. The next two methods, RPT and PALS derive from CWPT:

1.2 Reciprocal peer tutoring (RPT)

Reciprocal Peer Tutoring is similar to CWPT, its main difference lies in the pairing format and the form of goal and reward structure. Whereas in CWPT the pairs are assigned randomly and then allocated to one of two groups and compete against one another for a reward set by the teacher, in RPT the pairs are not randomly created, rather it is the pair who chooses the type of goal and reward from a list (Fantuzzo, King & Heller, 1992).

1.3 Paired-assisted learning strategies (PALS)

Paired-assisted learning strategies contain all the above CWPT characteristics, however it is different to CWPT in at least four characteristics: 1) Even though same age, the pairs are cross ability, 2) PALS incorporate a modelling characteristic, in which the higher ability student leads the way, 3) emphasis is placed on praising, 4) cognitive and meta-cognitive strategies of learning are applied (Fuchs, Fuchs, Karns, Hamlett, Katzarokt & Dudka, 1998).

1.4 Cross-age peer tutoring

In a cross-age peer tutoring the tutor and the tutee differ from one another in terms of age, and consequently in ability level, with the older peers possessing a more advanced knowledge of the materials. Also, due to its nature, cross-age tutoring is always fixed role, with the older student acquiring the role of the tutor (Sharpley & Sharpley, 1981). Beyond these three characteristics, age, ability and role, the method can have any combination of the remaining characteristics associated with peer tutoring.

Many studies and suggestions exist on simplistic cross age peer tutoring (Fitz-Gibbon, 2000; Thurston 2014; Tymms, Merrell, Thurston, Andor, Topping & Miller, 2011; Tymms & Merrell 2015)

1.5 Significance

Cross-age peer tutoring according to Fittz-Gibbon is superior to cross-ability same-age peer tutoring, as this method threatens the student who seeks help, whereas help from an older student is more accepted (Fitz Gibbon, 1992). One of the earliest studies to look into this is that by DePaulo et al., (1989), concluding that a) students tutoring same-age peers feel threatened by the task, b) cross-age tutors are also threatened if they are of similar ability, and that c), tutees can feel threatened to ask for help in a same-age context. Studies have shown that cross-age peer tutoring is superior than same-age peer tutoring in improving students' attitude (Miller, Topping & Thurston, 2011) and performance (Cohen, et al., 1982; Tymms, et al., 2011). Moreover, meta-analyses in peer tutoring have shown that peer tutoring informed by the social interdependent approach yield positive attainment results (Leung, 2014; Zeneli, Thusrton, Roseth, 2016). Specifically, studies with goal

interdependence set by students provide higher effect size=.99, as opposed to those on which the teacher sets the goals ES=.30, as do studies with autonomous structures ES=.94, without autonomy ES=.30 (Rohrbeck, Ginsburg-Block, Fantuzzo & Miller, 2003). Also, meta-analysis in peer learning in general by Roseth, Johnson and Johnson (2008) have shown that positive peer relations predicts outcome performance on peer learning, $R^2=.40$.

Positive results for the impact of an interdependent cross-age peer tutoring (ICAT) on tutees' attitudes have been illustrated (Zeneli, Tymms & Bolden, 2016). However to date researchers have not looked at applying important social interdependent elements to cross-age peer tutoring to measure its impact on attainment results, specifically important elements such as social skills training, goal/reward interdependence and autonomous/informative structure interdependence (Zeneli & Tymms, 2015).

Aim and research questions

This paper aims to apply key social interdependent elements to cross age peer tutoring in mathematics. Specifically it tries to answer the following research questions:

A). Does cross age peer tutoring raise tutee's mathematics attainment when incorporating crucial social interdependence elements such as goal, interpersonal training and resource interdependence, academic/social guidance scripts and autonomous structure?

B) To what extent was the intervention implemented successfully across the schools?

3. Method:

3.1 Participants

There were in total 550 students from three schools across England that participated in this study; two in the North East of England and one in the South East. The schools in the North East involved Year 8 tutoring Year 6, (School A), and the Year 9 tutoring Year 7 (School B). The school in the South East involved Year 10 tutoring Year 8 (School C).

The schools for the project were chosen as follows. Emails reporting the opportunity for the project were sent to the school authorities of three different English county councils, North Tyneside, Leeds, and Medway, as well as the secondary schools working with the Centre for Evaluation and Monitoring (CEM) at Durham University. Over 70 schools were contacted. The response rate of schools who expressed the wish to participate in the project was 9 schools, 13% of the total contacted. Out of the 9 schools only 3 agreed to the terms and conditions in respect to design and time frame.

Tables one provides more information regarding the school characteristics and group gender context. Although Special Education Needs students participated in the project they were not included from the analysis in order to keep a homogeneous sample.

Table 1. School characteristics

Schools	Mean Age For Each Year					School Age Range	Total Students	% Boys	% Girls	% SEN*	% ESL*	% Free School Meal	Average KS2 Point
	6	7	8	9	10								
A	11.7		13.4			9 -13	478	50.6	49.4	5.2	7.9	26.6	28.8
B		12.3		14.2		11 – 16	415	53	47	11.3	0	54.5	28
C			13.2		15.4	11 – 19	1301	55.1	44.9	13.7	1.6	28.5	26.5
National Average							978	51.0	49.0	7.7	15.9	16.8	28.4

*SEN=special educational needs. ESL=English as second language

For an expected effect size .55, which is the average effect size found in peer tutoring interventions in mathematics (Zeneli, 2015) significance level of .05 (one tailed T-test), and a power of .8, the total sample requirement for each school is 84, or 42 per each group. In order to account for attrition rates it was necessary to have just over 50 participants per each group, however for school B the numbers were smaller as there were not enough students.

3.2 Design

Initially all the schools agreed to participate on a quasi-experimental design intervention, however, school C decided to drop the control group and applied the intervention to the entire age group, without conducting any post-tests on the control classes. Table two presents the design and the data collected, and table three next page presents the gender composition in each group.

Regarding group characteristics in terms of free school meal (FSM), for school A the control group consisted of 8 FSM students, and 6 for the peer tutoring group. For school B, the control group contained 17 FSM students, and the peer tutoring group of 15 students. Finally, for school C there were 19 FSM students.

Table 2. Design and data collected

Schools	Length & control groups.	Performance	Attitude Data*	Observation	Lesson scripts
A	Six weeks, pre-post-test quasi experimental design.	Pre-post for all Year 6s.	Pre-post, for all Year 6s and Year 8s.	Two classes.	Two classes out of four.
B	Six weeks, pre/post-test quasi experimental design.	Pre-post for all Year 9s and Year 7.	Pre-post, for all Year 9s and Year 7s.	Two classes.	Yes.
C	Six weeks, pre-post-test single group design.	Pre-post for the Year 8s.	Pre-post, for peer tutoring Year 10s and Year 8s.	Two classes.	Yes.

*Attitude data are not reported in this paper

Table 3. Gender composition for each group by school and year

		School A			School B			School C		
Year 6	Control	Girls	24	Year 7	Control	Girls	22	Year 8	Girls	31
		Boys	34			Boys	17			Boys
Year 8	Peer Tutoring	Girls	22	Year 9	Peer Tutoring	Girls	23	Year 10	Girls	36
		Boys	32			Boys	13			Boys
Year 8	Control	Girls	41	Year 9	Control	Girls	18	Year 10	Girls	36
		Boys	21			Boys	24			Boys
Year 8	Peer Tutoring	Girls	25	Year 9	Peer Tutoring	Girls	15	Year 10	Girls	36
		Boys	29			Boys	21			Boys

3.3. Intervention Procedures

Organisation. Every school agreed to 35-40 minutes of cross age peer tutoring for six weeks, as well as 45 minutes of student training prior the intervention. The project started at the last term of the 2013 academic year. A timetable with all data-collection times was provided to each school. The short tests were administered and collected by the teachers together with all peer tutoring lesson scripts. The observations were conducted by the first author.

Materials/exercises. The topics of the materials were chosen by the schools in order to reflect their lesson plans, hence the control group also concentrated on the same topics. The exercises were created by the mathematics teachers from each school, together with the researchers. Many of the exercises were influenced by MathsLinks, 1, Year 7 Practice Book (Allan, 2008), for it provides a good illustration how to range mathematics exercises in different complexity levels, a crucial component in the interdependent cross-age peer tutoring (ICAT) framework.

Table four next page provides additional information on the exercises covered by each school:

Table 4. Lesson topics by schools

School A	School B	School C
1. Number patterns and sequence	1. Mean, median, range, mode	1. Measurements
2. Fractions	2. Data interpretation and representation	2. Probability
3. Understanding measures	3. Factors, multiply, fractions	3. Transformation
4. Properties of shape	4. Sequences	4. Enlargements
5. Data interpretation and representation	5. Mental methods, multiply/divide	5. Area
6. Written methods	6. Equations	6. Equations

Pair and Class set up. The pairings were conducted by the mathematics head teachers based on previous classroom individual assessments. The pairings of the students were conducted in the following way: The highest performer of the older age was paired with the highest performer of the younger age, and so on down the line on the same sex. This form of pairing on ability is consistent with previous cross age tutoring interventions (Fitz-Gibbon 2000; Topping, K. J., Campbell, Douglas & Smith, 2003; Tymms, et al., 2011), and has also been recommended by Thurston's (2014) peer tutoring manual supported by ESRC and Tymms and Merrell (2015). Also meta-analysis have illustrated that same sex grouping provide higher effect size (Rohrbeck, et al., 2003). Once the students were paired, they worked together for the duration of the project.

3.4. Training

Mathematics head teachers and in-house facilitators, teacher and students all received ICAT training. The training for the mathematics head teachers and facilitators concentrated on the following three areas:

Theory. Why and how peer tutoring works, and the literature that exists on peer tutoring.

Practice. Individual role-play on the ICAT framework.

How to train the teachers and the students to concentrate on academic and social interaction skills: Specifically how to give praise correctly and synchronise the tone of voice with the body language and the context overall. The head teachers and the facilitators were advised to carry out role play with the teachers and the students on both: the academic framework and interpersonal communication skills. In other words the training was conducted in a cascade top-down model.

Prior to the intervention the students received one full training session of 45 minutes, working on simple mathematics materials. Studies have found that training of the students is essential in peer tutoring (Harrison & Cohen, 1971; Barron & Foot, 1991).

The 45 minutes student training was divided as following:

The first 20 minutes of the training concentrated on interpersonal communication skills development. Specifically, the pairs were asked to do role playing: First they were required to sit far away from each other, interrupt and maintain a neutral face, - the pair then sat close to each other, smile, and be nice to one another, - and finally to discuss why the second option is better and the importance of synchronising body language with the tone of voice.

The remaining 25 minutes of the training, concentrated on the peer tutoring scripts, going through with their teacher what to do at each stage.

3.5. ICAT intervention framework

ICAT framework developed here consisted of four parts: As it can be seen in the ICAT framework, figures one, two and three,

The steps that the students took in order to complete the work were as following:

Part 1, Goal Setting. In the first part, Goal Setting, the students chose together in pairs a number threshold that they wished to reach, a threshold which become their performance goal.

Part 2, Practice-Test. In the second part, Practice-Test, the tutor prompted the tutee to answer a range of mathematics questions. This was the part in which new mathematics concepts were introduced to the tutee for the first time, ranging from very easy to very difficult. Maximum interaction was expected at this stage, as the tutee would struggle with new concepts, and the tutor was expected to provide help in different ways, first implicitly then explicitly.

Part 3, Connect. High interaction was also expected at the third stage, 'connect'. At this stage the tutee was prompted by the tutor to connect the new concepts to previous mathematics concepts and to real life events. This part ensured advanced cognitive and meta-cognitive engagement, and the tutor was also asked to provide help in different ways; again first implicitly then explicitly.

Part 4, Turn-Taking Test. The final part, contained less verbal interaction and more tutor written modelling, as the students were required to take turns to complete the exercises in order to determine whether they had achieved their self-set performance goals. By making the tutor engage in exercises in the end as well, it was expected that the tutor would have to take stages 1, 2, and 3 seriously, as he/she would need to have a good engagement with the mathematics concepts as well.

CONNECT: Tutee's Role:	Tutor's Role:
<p>2). Summarise ideas below:</p> <p>Clues: ↓</p>	<p>1). <u>Ask:</u></p> <p>“Can you think of other things you have done in maths like this?”</p> <p>“Can you think when you might do this kind of maths in your everyday life?”</p> <p>Direct only by nods.</p> <p>If correct, praise <i>kindly</i>.</p> <p>Well Done! Very Good! Excellent! Brilliant</p>
<p>3). <i>Ask:</i> Can you give me any clues?</p> <p>For an answer: ↓</p>	<p>4). Respond with only hints and clues. If correct, praise <i>kindly</i>.</p> <p>Well Done! Very Good! Excellent! Brilliant</p>
<p>5). <i>Ask:</i> How would you answer?</p>	<p>6). Try giving ANSWERS. If written down, praise <i>kindly</i>. Well Done! Very Good! Excellent! Brilliant!</p> <p>If you are not sure ask the teacher.</p>
<p>TURN TAKING TEST:</p> <p>1) Ask the teacher for the test. 2) Do the exercises in the test by taking turns. 3) Tutor marks tutee's exercises and gives feedback. 4) Together, add up the points for every <i>correct</i> answer, and check if you have won. 5) High-five each other for the great effort. 😊</p>	

Figure 2. Parts three and four

Solve the exercises below by taking turns:

1. $8 + ? = 21$
2. $3c = 21$
3. $b - 3 = 15$
4. $2x + 4 = 18$
5. $3a - 4 = -13$
6. $4x + 2 = 2x + 22$
7. $4(c + 4) = 6(c + 2)$

Figure 3. Part four

The intervention adopted here was different from other cross-age peer tutoring interventions when considered as a whole. The following are some of ICAT's strengths:

Academic goal interdependence. Unlike most *cross-age* peer tutoring interventions, which rely only on the role and social skills training as means of positive interdependence, the framework here also incorporates academic-goal interdependence.

Autonomous-Structural interdependence. This was achieved by combining guidance sheet, exercises and praising cards all in one. This is unique to the ICAT framework. An evident problem in peer tutoring is that tutors give the answer to the tutee too early (Harrison & Cohen, 1971), therefore the timing of when the answer be given is very crucial according to Topping (2001); similarly the timing of praising is also important (Johnson, 1990).

Advanced cognitive and metacognitive engagement. ICAT explicitly engages students in meta-cognitive discussion by providing a section entitled 'connect', in which the students are asked to engage into two different, yet similar, ways of thinking: First to connect what they just covered to previous Mathematics classes or subjects in order to provide some kind of *categorisation* (Kramarski & Mevarech 2003; 2004), and second to relate the topic to real life events, as in the case of "link it up" in Shared Maths peer tutoring (Tymms, et al., 2011). Both relating it back to current knowledge or to real life are emphasised and advised by Thurston (2014) peer tutoring manual.

It familiarises students with tests by providing a test-like peer tutoring environment. This was achieved by naming two out of four peer tutoring sections as; "Practice-Test" and "Turn-Taking-Test". Again this is similar to Fantuzzo, Polite and Grayson (1992) Class-wide Peer Tutoring or to RPT in general, however, with three major differences. Firstly, the exercises, for both parts, range hugely in the level of complexity, hence aiding the students to reach their true ZPD; this is important since in cross age peer tutoring the teachers very often do not know what level the tutors or tutees are at, teachers often find it hard to provide the students with the correct exercise levels. Secondly, the final test is a turn-taking test, hence the students carry on working together, rather than alone. They do so, however, in such a format that the tutee and the tutor both watch how their partner solves the exercises, so that there is room for peer modelling in the process.

3.6. Implementation indicators

The table below shows the attrition rate for each group and data analysis type for each school:

Observations: Observations were conducted at two levels, overall observations and student pair observations.

Overall observations: This concentrated at the classroom level, ensuring that basic elements were met, those were: Spacious classrooms, teachers knowledgeable in terms of ICAT elements, teachers helping students, desks organised appropriately, necessary materials were present, and same sex pairings.

Pair observations: The observation instruments, table five, have been influenced by various thinkers, items 1-3 by Argyle, (1976); Allen and Feldman, (1976), Johnson (1990) measuring the level of interdependence, while the remaining items have been influenced by Fitz-Gibbon (2000), Roscoe & Chi, (2007); Topping, Miller, Murray & Conlin (2011), measuring the level of cognitive and meta-cognitive engagement.

The structure of the observation is influenced by Topping, et al., (2011). Observations were conducted in the following way: Each pair of students was observed through five windows. For the Year 8 tutoring Year 6, and Year 9 tutoring Year 7 each window lasted approximately 30 seconds, 5 seconds to adjust, 15 seconds to observe and 10 seconds to record. For the school of Year 9 tutoring Year 7 the window was longer, as there were only 9 pairs per class. Therefore for the Year 9 tutoring Year 7 each window lasted around 42 seconds.

Lesson Materials: Lesson materials were collected for most of the 6 lessons, including the training lessons for school B and C.

The lesson materials concentrated on measuring different areas such as: first, the level of interdependence, by paying attention to the number of students setting goals, second, cognitive and meta-cognitive elements, by paying attention to the quantity of exercise attempted at each level, the quality of answers and the quantity of different feedback types.

Table 5. Implementation indicators by method

Lesson Materials		Observations	
1	Amount of peer tutoring lessons scripts including training.	1	Goal Interdependence
2	Set goals by the students	2	Tutor B-Language/T-Voice
3	Quantity of exercises attempted in the <i>practice test</i> section	3	Tutor Praises Correctly
4	Quantity of exercises attempted in the <i>connection</i> section	4	Tutor M/C Questions
5	Quantity of exercises attempted in the <i>turn-taking</i> test	5	Tutee Self Corrects
6	Quality of answers in the <i>practice test</i> section	6	Tutee Connects/Categorises
7	Quality of answers in the <i>connection</i> section, such as negative, broad or specific statements	7	Tutor Questions
8	Quality of answers in the <i>turn-taking</i> test	8	Tutee Answers
9	Total types of feedback	9	Tutee Questions
10	Feedback by ticks/crosses in the <i>practice test</i>	10	Tutor Explains
11	Feedback by ticks/crosses in the <i>turn-taking</i> test		
12	Checking if goal is achieved.		

3.7. Instruments

Since this was a short intervention, it was decided that in order to capture the effect of the intervention the instrument needed to be newly designed as oppose to a standardised test which would have been too broad to capture the impact of the intervention.

Also, since the students worked at different levels due to the difference in age across schools and different topics, three different instruments were created. Each instrument measured mathematics performance of the topics covered during the 6 weeks that took place in the experimental and the control groups. The following were the Cronbach's Alpha reliability levels presented in table 6:

Table 6. Cronbach's Alpha reliability coefficient for performance measurement

Schools	Year	Cronbach's Alpha Based on Standardized Items	n of Items	n
	Year 6 Pre-test	.70	6	98
A	Year 6 Post-test	.67	6	97
	Year 7 Pre-test	.66	5	64
B	Year 7 Post-test	.70	5	63
	Year 8 Pre-test	.36	6	49
C	Year 8 Post-test	.59	6	46

3.8. Analysis

Performance was analysed by using SPSS 20:

Analysis of Covariance (ANCOVA) was used for schools A and B, the pre/post-test quasi experimental designs. ANCOVA controls for pre-test score differences.

For school C, the single group design a dependent t-test was applied. SPSS does not conduct one sided t-tests, which was required when testing rather than exploring hypothesis; therefore in order to take account of this shortfall the p value was multiplied by 2 for the dependent t-test.

The Effect Sizes for the quasi-experimental designs was manually calculated by taking the ANCOVA coefficients and using Cohen's d technique with the square root of the MSerror as the denominator. Hedge's g pooled standard deviation was used to calculate the effect size for school C as the design differed from schools A and C.

3.9. Results

3.9.1 Attrition rate

Table 7 reports the attrition rates by data collection type:

Table 7. Attrition rate % for each data collection type by group and school for the tutees

Schools	Groups	Performance tests %*	Lesson materials %*
School A			
Year 6 students	Peer Tutoring	9 missing 9/54=17%	31 missing students 31/54=57%
	Control	9 missing 9/58=16%	
School B			
Year 7 students	Peer Tutoring	1 missing 1/36=3%	1 missing student 1/36=3%
	Control	13 missing 13/39=34%	
School C			
Year 8 students	Peer Tutoring	30 missing 30/74=41%	30 missing students 30/74=41%

*In order to arrive at the attrition percentage the number of missing students was divided by the total number of students within each group for each data collection type.

In terms of performance data the highest attrition rates were for school B the control group, 34%, and school C with 41%. In terms of lesson materials, more than half of school A students, 57%, did not provide their names in the ICAT lessons therefore they did not enter the analysis; and 41% of students in school C did not do so.

3.9.2 Implementation fidelity

Observations

Overall school/classroom observations experience. For school A the observations of the set up overall corresponded to the planned intervention. The classes were spacious, and there was enough space between the pairs. Teachers directed the pace of the peer tutoring as they were trained to do, guiding the pairs through each peer tutoring part. The lessons scripts indicated that the schools made use of the training lesson. The pairing of the students was conducted as planned, i.e. same sex and the best performer of the older age was paired with the best performer of the younger age.

School B showed few problems: One of the classrooms was slightly small. Even though there were only nine pairs the students sat very close to one another. Although the teacher did try his best to guide the pairs through each peer tutoring part many of the students did not remain seated, hence causing noise. The pairing of the students was only partly conducted as planned, specifically the school did not entirely managed to secure same-sex pairing. Also, the school teachers were trying Information Communication Technology (ICT)

and formative feedback teaching strategies in order to improve students' performance, therefore the context in this school was not normal.

School C the observations revealed that overall the classroom sizes and pair's seating were spacious. However, there were other issues: Firstly, this school had entirely split the boys from the girls so as to be sitting in different rooms, this was not an issue, however, for the boys' observation, there were three teachers in the room: the appointed teacher, the mathematics head teacher and the school's head teacher; showing extra effort in implementing peer tutoring. Later, however, it became evident that on that same day the school had been inspected by Ofsted, who are usually keen on peer tutoring interventions. Therefore, the schools' effort to manage peer tutoring effectively is very likely to have been an extra effort in light of the Ofsted inspection rather than a genuine attempt.

Table 8 next page provides an overall picture of the general school observations:

Table 8. General school observations

Observations topics	School A	School B	School C
Classrooms space	Enough space	One classroom too small	Enough space
Teachers knowledgeable with ICAT	Yes	Yes	Yes
Teachers aiding students	Yes	Yes	Yes
Desks organized appropriately	Yes	Mostly	Yes
Materials (pencils, rulers, etc.)	Yes	Yes	Yes
Same sex pairing	Yes	Mostly	Yes

Pair observations: Figure four shows the extent to which student pairs implemented ICAT according to programme specifications.

Overall the pair observations illustrate that the indicators least implemented were goal interdependence, tutor praises correctly and tutee connects/categorises. Also, indicator 'tutee self-correct' was removed from the analysis since this activity did not materialise within the pair. The indicators with the highest observed frequency were: tutor adopts a correct body language and tone of voice, tutor explains, tutor asks questions and tutee provides answers/explanations.

In terms of comparing the schools to one another, for most of the indicators no major differences were detected, with the exception of school A in which more goals and correct praising were observed; and in school C the tutors seemed to ask more questions compared to other schools.

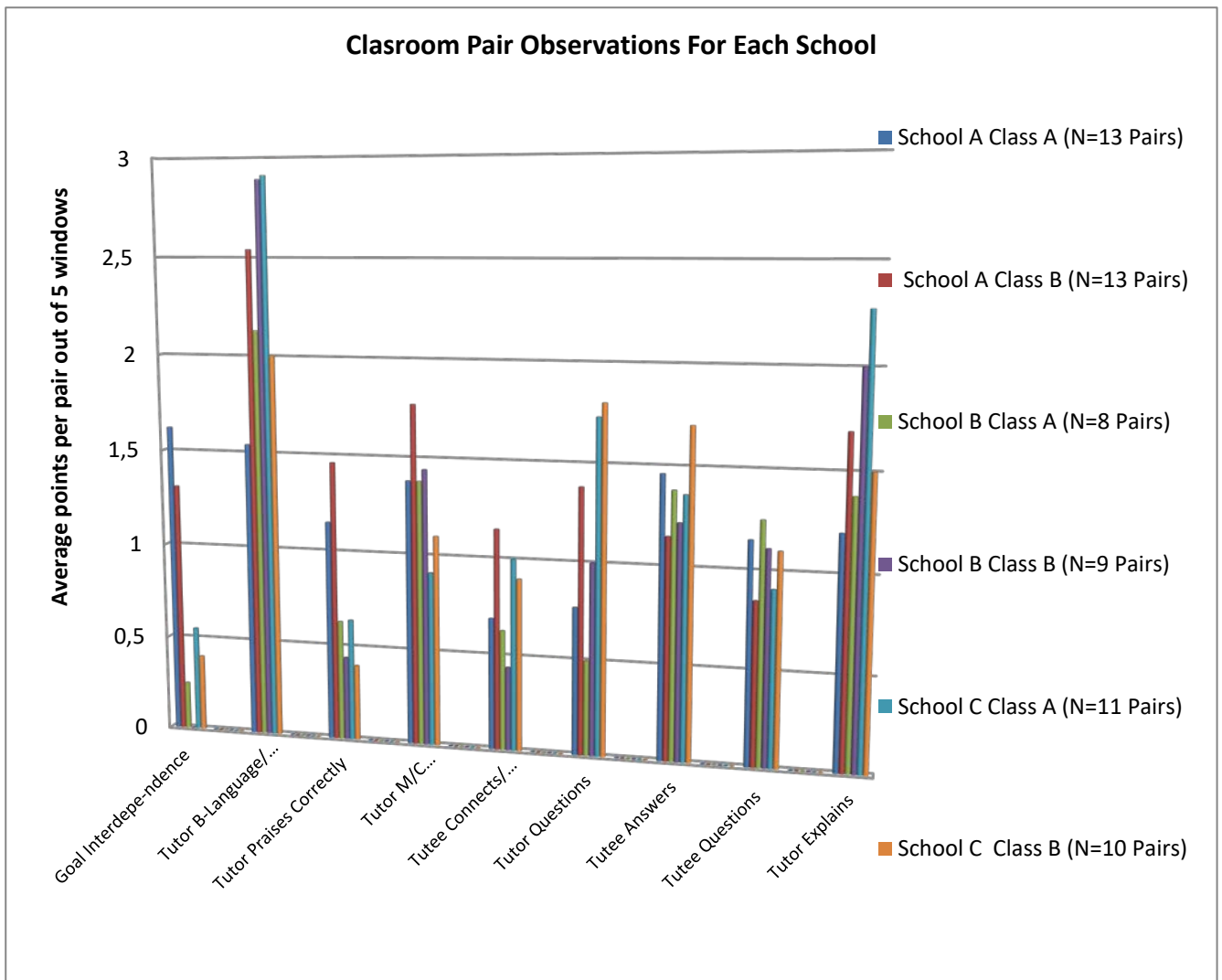


Figure 4. Classroom pair observation by school

Lesson materials: In terms of ICAT lesson materials, school A came the closest to implementing the programme according to its specifications, 85%. Schools B and C showed an implementation of 63.5% and 64.88% respectively. Table 9 provides the results.

Overall the element least implemented was 'lessons with student set goal', 58%; and the element implemented the most was 'lessons in which all exercises in the practice-test section were attempted', 79%.

Table 9. Percentage of implemented lessons according to programme specifications for the students with their names on the ICAT materials.

Lesson Materials	School A %	School B %	School C %	Average % per indicator
Total peer tutoring lessons attended with students names on.	149/161=93	152/245=62	206/308=67	74
Lessons with student set goals	145/149=97	60/152=39	80/206=39	58
Lessons in which all exercises in the practice-test section were attempted	116/149=78	120/152=79	164/206=80	79

Lessons with attempted exercises connect section	105/149=70	85/152=56	154/206=75	67
Lessons in which all exercises in the turn-taking section were attempted	121/149=81	106/152=70	120/206=58	70
Correct answers for practice test	779/957=81	632/986=64	1410/1759=80	75
Specific answers connect section	363/382=95	92/130=71	124/256=48	71
Correct answers turn-taking section	785/942=83	651/967=67	819/1132=72	74
Average per school	85	64	65	

3.10. Performance

Statistical assumptions: There were two statistical assumptions which were not met when conducting the ANCOVAS. The violated assumptions were found in school A, when comparing the mathematics performance of the Year 6 peer tutoring group to the Year 6 control group; those were normality assumption for the peer tutoring group on the pre-test and the homogeneity of variance between the groups. However, when the number of participants is over 30, as was the case here, assumption violations do not have a huge impact on the findings (Howell, 2010).

Pre-test differences: Table 10 suggests that there were significant differences for the pre-test data for school A. Hence to ensure that there was no regression to the mean, a condition in which a particular group falls within the extreme side of the sample mean in the pre-test and then equalises in the post test, the formula recommended by (Trochim, 2012) was applied: $100(1-r)$, where r is the correlation between the pre and post-test data within each group. The higher the correlation, the lower the percentage of the regression to the mean (Trochim, 2012).

All groups showed a 20-30% regression to the mean. However, since this phenomenon appeared for both groups, control and peer tutoring, the threat to inflating the effect size is extremely small, as regression to the mean for any variable has cancelled itself out, and therefore poses no major danger to the results.

Effect sizes. Table 11 provides details on the findings. The highest ES was that of year 6 tutees within school A as compared to the control group within that school, $ES=.92$, significant at ($p<.001$). This was followed by Year 8 tutees within school C, comparing the peer tutoring pre-tests scores to the post-tests, $ES=.79$, also significant at ($p<.001$). Finally the lowest ES was that of Year 7 tutees within school B as compared to the control group within that school, $ES=.22$, non-significant.

Tables 10 and 11 next page provide additional data:

Table 10. Pre-test score differences

<i>Student Performance</i>	<i>Pre-test mean peer tutoring</i>	<i>Std.</i>	<i>n</i>	<i>Pre-test mean control</i>	<i>Std.</i>	<i>n</i>	<i>Sig-two tailed</i>
Year 6 (Tutee) School A	20.02	5.94	46	23.51	5.4	49	.004
Year 7 (Tutee) School B	11.54	5.09	35	13.69	5.49	26	ns

Table 11. Pre/post-test gain differences

Student Performance	Quasi Pre-post Experimental Design					
	Peer Tutoring Est. Mean	Std. Error	Control Est. Mean	Std. Error	MSE	ES
Year 6 (Tutee)School A	25.90(<i>n</i> =46)	.485	22.95(<i>n</i> =49)	.470	10.32	.92**
Year 7 (Tutee)School B	15.37(<i>n</i> =35)	.702	14.46(<i>n</i> =26)	.817	16.93	.22
Year 8 (Tutee)School C	Single group pre-post experimental design					
Pre-test mean	Sd	n	Post-test mean	Sd	n	ES
8.50	2.81	44	11.45	4.46	44	.79**

** $p < .001$.

Testing for classroom differences within groups: this was conducted to investigate whether a particular classroom showed to be performing much lower or much higher than other classroom, which would have inflated the overall findings by increasing or reducing the total group mean. When testing for class effect via an ANOVA Residual Analysis of Quadratic Regression slope for school A there was a significant main effect, $F(3, 92)=5.34$, $p=.002$. However, post-hoc comparison showed that the significant main effect was mainly evident between the treatment and the control classes, as oppose to classrooms within the treatment group, which would have inflated the findings.

Also, when testing for class effect in school B via an ANOVA of Residuals from a Cubic Regression slope, there was no main significant effect on the performance scores of different classes, $F(3,57)=.87$, ($p=.46$).

No such analysis was undertaken for school C, since the design was weak to support any claims regarding the impact of ICAT.

4. Discussion

This study has tested a new form of cross age peer tutoring intervention, influenced mainly by Social Interdependence Theory. In order to compensate for design shortfalls, two additional safeguards were applied: regression to the mean analysis and investigations on classroom effects were carried out.

The findings for school C can be viewed with scepticism due to the lack of a treatment group, in other words the gain could be simply due to the maturation effect.

In terms of the findings for school A, the findings from this study correspond with those by Rorbeck, et al., (2003) and Leung (2014), that peer learning interventions work better on younger ages. With the younger school also having a better implementation overall. Apart from a high implementation of ICAT, at least three additional factors can be discussed to help understand the findings for school A:

Firstly, ICAT combines within it elements of the most effective peer tutoring interventions. Hence the first explanation would be the peer tutoring framework adopted here, which was informed by the 'what works' literature.

Secondly, unknown research design issues steaming from the weak design could have also biased the findings, meta-analyses have shown that in peer tutoring the chosen research design influences the magnitude of the ES (Zeneli, et al., 2016). Specifically, a) issues such as the Hawthorne effect, which is the case with short interventions, b) student and teacher demoralisation in the control groups, and c) teachers in the experimental group teaching to the test considering that all the school were keen to see peer tutoring work.

The final reason why the effect size was high in school A is that the instrument was developed to evaluate the topics covered during the ICAT intervention. If a national test was used, this would not have captured the true impact of the intervention and the effect size would have been much smaller. The high effect size in school A is consistent with peer tutoring interventions in mathematics using research made/modified instruments for the context, (Fantuzzo, Polite & Grayson, 1990; Ginsburg-Block, & Fantuzzo, 1998; Menesses & Gresham, 2009).

This research consists of major methodical limitations such as, lacking random sample selection, random participants allocation, a short time-frame, a weak instruments and many other elements necessary for a strong research which measures impact as identified by Zeneli (2016). Therefore the findings cannot be generalised to any population.

Largely, there is a need for a strong external validity design, such as *clustered*, at the school level as conducted by Tymms, et al., (2011), *stratified* random selection (Torchim, 2012); and strong internal validity, such as *blocked* randomisation allocation of schools to groups (Lachin, Matts & Wei, 1988), as well as *established instruments* (Slavin & Maden, 2008, 2011). Such designs are the way forward to shed more light on the effectiveness of the intervention developed here; as well as other education interventions in general. Also, if the intervention is lengthy enough, research needs to measure tutors' attainments, especially when considering the idea that tutors learn more than tutees (Fitz-Gibbon, 1985), which has also been established by one of the most cross-age peer tutoring robust trials (Tymms, et al., 2011). In terms of method, a better design would have been to have a four way factorial design; one group concentrating on cross-age elements, emphasising *learning processes*, one on interdependent elements, emphasising *motivational processes*, the third group emphasising both *learning* and *motivational* and a control group.

Furthermore, future research needs to go one step further and also incorporate reward interdependence. Especially when considering that the latest meta-analysis in peer tutoring has shown that studies which incorporate *reward interdependence* as chosen by students in peer tutoring provide that highest effect size (Rohrbeck, et al., 2003). This would further strengthen a cross-age peer tutoring framework and increase the level of interdependence and consequently motivation within peer tutoring pairs or triads.

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Comparison of the Effectiveness of CBT Group Counseling with Passive vs Active Music Therapy to Reduce Millennials Academic Anxiety

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ABSTRACT

The purpose of this research is to know the effectiveness of counseling group implementation of cognitive behavior therapy (CBT) approach with passive and active music therapy technique in reducing academic anxiety millennials students. This study used quasi-experimental design with repeated measures (pretest, posttest, and follow-up). Group counseling was conducted for 5 meetings (@ 100 minutes), and follow-up was performed after 2 weeks of treatment. Research subjects used in this study are 14 millennials generation millennials students divided into two groups. The results showed that during pretest vs. posttest, CBT group counseling with passive was more effective for reducing academic anxiety compared to active music therapy. In pretest vs follow-up, active was more effective for reducing academic anxiety compared with passive music therapy. Furthermore, posttest vs. follow-up, active was more effective for reducing academic anxiety compared with passive music therapy with an increased academic anxiety after two weeks of treatment.

Keywords:

group counseling, cognitive behavior therapy, passive music therapy, active music therapy, academic anxiety, millennials generation

1. Introduction

Nowadays, the undergraduate the undergraduate thesis is the final project which leads to high anxiety for most millennials students in Indonesia (Situmorang, 2017a, 2017b, 2018). Anxiety towards such a undergraduate the undergraduate thesis is a form of academic anxiety at the college level (Ottens, 1991). Many of the millennials students who still do not have the skills to write a qualified, and no interest in research. Furthermore, the low motivation of achievement and the creativity of the millennials students in the effort of completion of this final project, are some predictors that can be the spotlight (Situmorang, 2016). If this continues to be allowed, it will result in negative symptoms in the physical and psychological aspects that may hinder millennials students in their study process. Most millennials students who experience academic anxiety to this the undergraduate thesis will tend to do negative things that can harm themselves, especially doing things that are non-productive so tend to be procrastinator (Situmorang, 2017b, 2018).

In this regard, it is important to undertake a preventative intervention service to prevent this phenomenon upstream, and to conduct curative intervention services to treat those who have undergone this downstream academic anxiety (Situmorang, 2017a). The education counselors in universities are expected to always be proactive in preventing and treating millennials students who have academic anxiety to this undergraduate thesis. In addition, education counselors are expected to perform a more effective and optimal counseling

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intervention service in tackling this problem. One of the modern counseling intervention services offered by integrative approach is through music (Capuzzi & Gross, 2011; Sharf, 2012; White & Davis, 2011).

The use of music in counseling can increase the production of all four positive hormones present in the human body, namely endorphins, dopamine, serotonin, and oxytocin. The functions of these four positive hormones can make the body more relaxed, reduce anxiety or stress, increase happiness, improve intelligence, and increase self-esteem (Mucci & Mucci, 2002; Djohan, 2006).

Giving music as one of the techniques in intervention service to assist millennials students in reducing academic anxiety will be far more effective compared to conventional counseling intervention service that has been done by education counselor, because with music student can reduce his anxiety towards the undergraduate thesis and increase his confidence in solving essay.

Since 1992, Gladding (2016) introduced the use of music in counseling. Music is used as a medium to calm, and help counsees to feel comfortable, so the counseling process becomes more effective. The use of music in the counseling process is known as music therapy. Capuzzi and Gross (2011), and Sharf (2012), examined music therapy as one form of expressive therapy intervention / creative arts in integrative counseling approach, which can be applied in the counseling process.

Gladding (2016) suggests that in the modern counseling process it is hoped that counselors can integrate art therapy in the counseling process. One of the art therapy that can penetrate cultural boundaries is through music. Anyone likes music, regardless of age, gender, ethnicity, religion, race, educational background, and others (Djohan, 2006).

In its application, music therapy is divided into two, namely passive music therapy and active music therapy (Wigram, Pedersen, & Bonde, 2002). Passive music therapy is the gift of music therapy that is done by inviting the counselee to listen to a particular instrument carefully. Meanwhile, active music therapy is the process of giving music therapy is done by inviting the counselee to play an instrument, singing, or creating a song. These two techniques of music therapy can be done through individual or group counseling.

In the realm of guidance and counseling, group counseling is an interpersonal process led by professionally trained counselors and conducted with individuals dealing with special developmental problems. It focuses on the thoughts, feelings, attitudes, values, goals of behavior and individual and group goals as a whole (Gibson & Mitchell, 2011; Wibowo, 2005).

Wigram, Pedersen, and Bonde (2002) say that the development of music therapy in the world today in practice has centered largely on Behavior's theory, which specifically refers to Cognitive Behavior Therapy (CBT). Recent research on music therapy centered on CBT theory in counseling has been widely used, among them research conducted by Baker, Gleadhill, and Dingle (2007), Fredenburg and Silverman (2014), Rogers et al. (2007), Situmorang (2018), Vargas (2015), Zhang et al. (2017).

Based on the theory of Music Therapy based on Cognitive Behavior Therapy (Wigram, Pedersen, & Bonde 2002), a millennials student experiencing academic anxiety is caused by the existence of cognitive distortions or negative thoughts related to his helplessness or inability in academic terms. Cognitive distortions are formed from the core beliefs that have settled that is the most basic beliefs about self, the existence of academically incapacity and helpless beliefs, these beliefs are formed based on experience or events experienced by individuals. So when individuals experience problems related to academic anxiety, then the thing that needs to be done is to help the individual structure the negative thoughts back to the more adaptive thoughts.

Using this technique of passive music therapy and active music therapy centered on CBT, it is expected to help them realize the negative thoughts that cause it, then evaluate their thoughts, and then explore alternatives to change negative thoughts about themselves and their environment through listening activity receptive / passive music with guided imagery and active musical activity through composing, improvising and re-creating music. Another thing that is not less important than the provision of music therapy is to help the counselee increase the production of four positive hormones possessed by each individual, namely endorphin, dopamine, serotonin, and oxytocin (Mucci & Mucci, 2002) that act as the trigger of happiness is expected. The functions of these four positive hormones can make the body more relaxed, so as to reduce anxiety or stress experienced by individuals.

The reality in Indonesia, the application and research of music therapy in counseling practice is still rare. Research on the influence of music as a medium of therapy against student academic stress ever done by Rosanty (2014). From the results of these studies, music can be used as an intervention to reduce the academic stress experienced by students. However, this study only proves the use of Mozart music as a passive media of passive academic stress, and has not yet considered the giving of music as a technique of integrative approach that can be integrated into conventional counseling practice.

Based on this, it is necessary to conduct further research on the provision of music therapy with passive music therapy and passive music therapy techniques that are integrated with one conventional counseling approach that is CBT, to prove its effectiveness in reducing academic anxiety of millennials students for the undergraduate thesis. The hypothesis is that there are differences in the effectiveness of CBT group counseling with passive music therapy and passive music therapy techniques in reducing the academic anxiety of millennials students for the undergraduate thesis.

2. Method

This study used CBT group counseling with passive music therapy technique and active music therapy as independent variable or treatment, and academic anxiety as dependent variable. CBT group counseling with passive music therapy techniques is a service provided to help group members who exhibit an academic anxiety to the undergraduate thesis, thus helping them to become aware of the anxiety they are experiencing, and then evaluating the anxiety based on their unpleasant past experiences. Furthermore, group members are invited to make peace with their past experiences, and optimize their ability to complete the undergraduate thesis well through receptive / passive listening activity with guided imagery. Meanwhile, CBT group counseling with active music therapy techniques is a service provided to help group members who exhibit academic anxiety, so as to help them be able to realize the negative thoughts that cause it, then evaluate their mind, and then they explore alternatives to change negative thoughts about himself and his environment through active musical activity, ie composing, improvising and re-creating music.

Furthermore, academic anxiety is an impulse of thoughts and feelings that are sad in the millennials student, as a result of the feelings of worry associated with the process of preparing the undergraduate thesis. Where in the anxiety there are five indicators, namely patterns of anxiety-engendering mental activity, misdirected attention, physical distress, and appropriate behaviors.

Subject of research in this research is millennials student of BK Unika Atma Jaya which have academic anxiety which is up to high. Research subjects used in this study are 14 millennials students. Selection of this subject using purposive sampling technique (non-random). Selection of research subjects is based on inclusion criteria and based on academic anxiety scale. The subject of the study has been selected based on the academic anxiety scale, the result is used as a pretest. This pretest is done to find out the initial description of the millennials student's academic anxiety condition before being given treatment and then to be compared with posttest and follow-up.

The main instrument used in the study is an academic anxiety scale that researchers develop and refers to the theory of academic anxiety by Ottens (1991). Academic anxiety scale consists of 24 items. In the measuring instrument, the researcher performs the expert validation process (expert judgment) and conducts the instrument test twice. The instrument test results are valid ($r_{xy} = 0.536-0.823$) with the alpha coefficient of 0.963.

The method used is quasi-experimental with repeated measures. This study used three measurements (pretest, posttest, follow-up). Pretest is in the form of an academic anxiety scale before treatment is given. Meanwhile, treatment provided is CBT group counseling with passive music therapy technique and active music therapy performed as many as 5 meetings in different groups, with meeting frequency once a week, and duration of 100 minutes per meeting. Posttest in the form of instrument data collection given after treatment. The follow-up is a re-submission of the data collection instrument after treatment and is done two weeks after the posttest is given.

The analytical technique used in this study is one-way Analysis of variance (ANOVA) repeated measures using the help of Microsoft Excel 2010 and IBM SPSS for windows 23 program. The purpose of using this analytical technique is to test the hypothesis to know the difference of group counseling effectiveness CBT with passive music therapy and active music therapy techniques based on pretest, posttest, and follow-up data.

3. Results

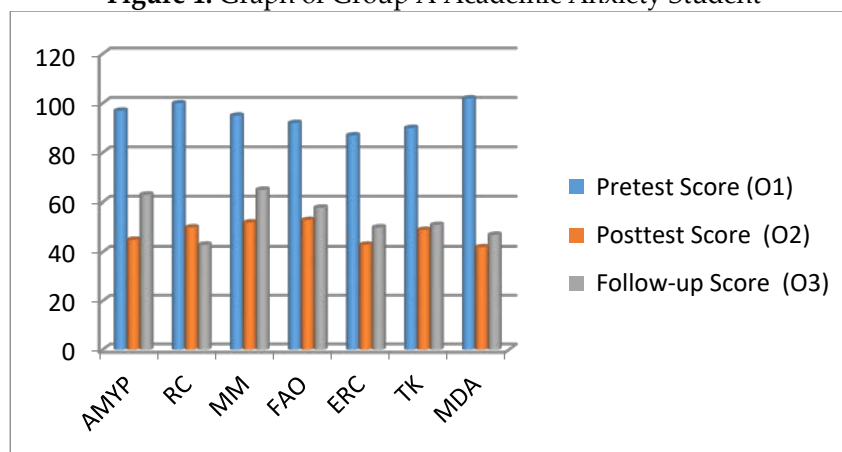
3.1. CBT Group Counseling with Passive Music Therapy

The collected data (pretest, posttest, follow-up) is tabulated prior to analysis (Table 1. and Figure 1.). The condition of academic anxiety given CBT group counseling with passive music therapy before getting treatment is in high condition. After receiving treatment, the millennials student's academic anxiety level dropped to low, but at the time of follow-up there was a slight increase in academic anxiety.

Table 1. Descriptive Data of Group A Academic Anxiety Score

No.	Students	Pretest	Posttest	Follow-up
1.	AMYP	97	45	63
2.	RC	100	50	43
3.	MM	95	52	65
4.	FAO	92	53	58
5.	ERC	87	43	50
6.	TK	90	49	51
7.	MDA	102	42	47

Figure 1. Graph of Group A Academic Anxiety Student



Based on the pretest result the average level of millennials student academic anxiety is included in the high criterion ($M = 94.71, SD = 5.407$). After being given treatment in the form of CBT group counseling with passive music therapy technique, millennials student academic anxiety experienced a very drastic decrease at posttest ($M = 47.71, SD = 4.386$). However, after two weeks of treatment, there was a slight increase in millennials student academic anxiety at follow-up ($M = 53.86, SD = 8.295$). So from the analysis result (Table 2.) shows that CBT approach group counseling with passive music therapy technique is effective in reducing millennials student academic anxiety ($F = 117.505, p < 0.01$).

Table 2. Results of Group A One-Way ANOVA Repeated Measures

Parameter	Pretest	Posttest	Follow-up
Mean	94.71	47.71	53.86
SD	5.407	4.386	8.295
F (2,12)	117.505		
p	< 0,01		

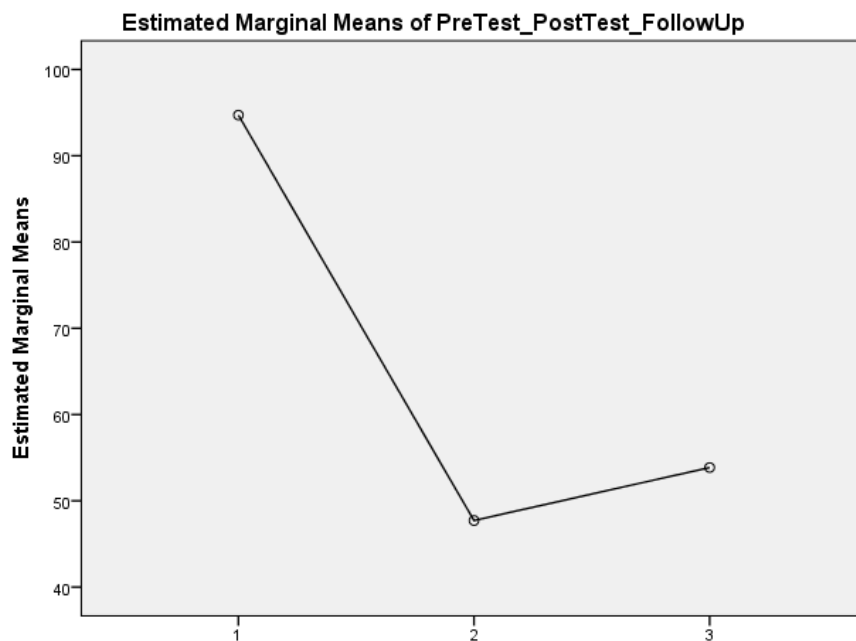
The result of comparison analysis (pairwise) also shows the value of the acquisition value on the measurement of academic anxiety (Table 3. and Figure 2.). The magnitude of academic anxiety decreased from the effectiveness of CBT approach counseling with passive music therapy technique on pretest vs posttest ($MD =$

47.000, SE = 2.795, $p < 0.01$). Then, on pretest vs follow-up (MD = 40.857, SE = 4.056, $p < 0.01$). On posttest vs. follow-up (MD = -6.143, SE = 3.011, $p > 0.01$).

Table 3. Results of Group A Pairwise Comparisons

No.	Comparisons	MD	SE	p
1.	Pretest vs Posttest	47.000	2.795	<0.01
2.	Pretest vs Follow-up	40.857	4.056	<0.01
3.	Posttest vs Follow-up	-6.143	3.011	>0.01

Figure 2. Estimated Marginal Means of Group A



Based on the results, it can be concluded that CBT approach group counseling with passive music therapy technique can significantly reduce millennials student academic anxiety of BK Unika Atma Jaya at pretest vs. posttest and pretest vs follow-up, but at posttest vs. follow-up enhancement.

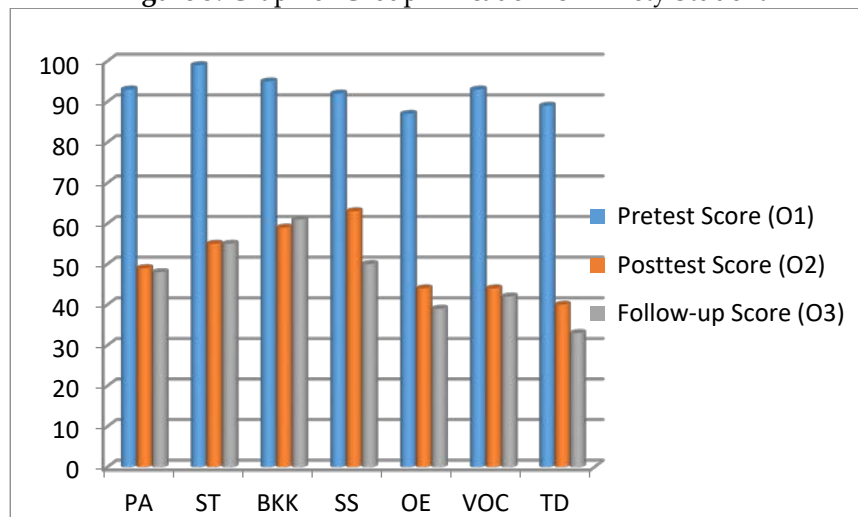
3.2. CBT Group Counseling with Active Music Therapy

The collected data (pretest, posttest, follow-up) is tabulated prior to analysis (Table 4. and Figure 3.). The condition of an academic anxiety group given CBT group counseling with active music therapy before getting treatment is in high condition. After getting treatment, the level of millennials student academic anxiety decreased to low, then at the time of follow-up decreased again in academic anxiety.

Table 4. Descriptive Data of Group B Academic Anxiety Score

No.	Students	Pretest	Posttest	Follow-up
1.	PA	93	49	48
2.	ST	99	55	55
3.	BKK	95	59	61
4.	SS	92	63	50
5.	OE	87	44	39
6.	VOC	93	44	42
7.	TD	89	40	33

Figure 3. Graph of Group B Academic Anxiety Student



Based on the pretest result the average level of millennials student academic anxiety is included in the high criterion ($M = 92.57, SD = 3.910$). After being given treatment in the form of CBT approach group counseling with active music therapy technique, millennials student academic anxiety experienced a very drastic decrease during posttest ($M = 50.57, SD = 8.619$). Then, after two weeks of treatment, there was a decrease in millennials student academic anxiety at follow-up ($M = 46.86, SD = 9.616$). So from the analysis result (Table 5.) indicate that CBT group counseling with passive music therapy technique is effective in reducing millennials student academic anxiety ($F = 213.495, p < 0.01$).

Table 5. Results of Group B One-Way ANOVA Repeated Measures

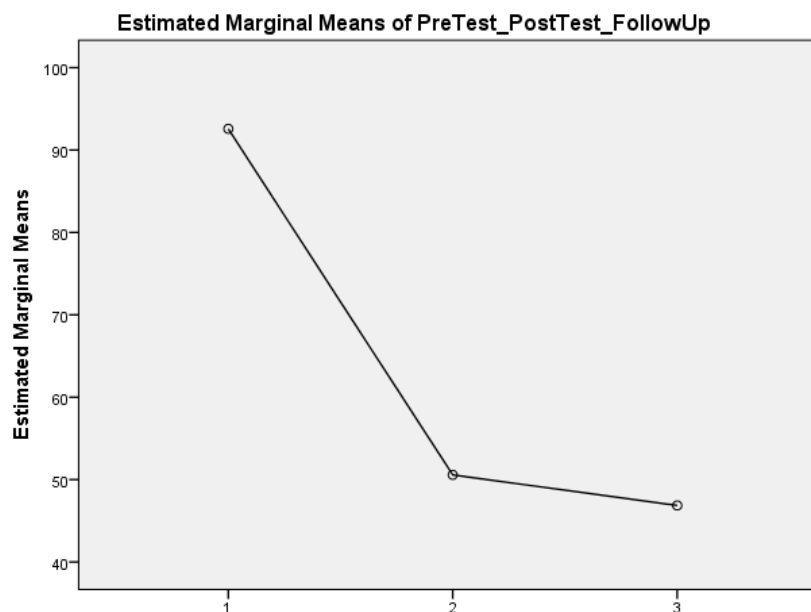
Parameter	Pretest	Posttest	Follow-up
Mean	92.57	50.57	46.86
SD	3.910	8.619	9.616
F (2,12)	213.495		
p	< 0,01		

The result of the comparison analysis (pairwise) also shows the amount of acquisition value on the measurement of academic anxiety (Table 6. and Figure 4.). The magnitude of the academic anxiety decreased from the effectiveness of CBT approach counseling group with active music therapy technique on pretest vs posttest ($MD = 42.000, SE = 2.726, p < 0.01$). Then, on pretest vs follow-up ($MD = 45.714, SE = 2.643, p < 0.01$). On posttest vs follow-up ($MD = 3.714, SE = 1.924, p > 0.01$).

Table 6. Results of Group B Pairwise Comparisons

No.	Comparisons	MD	SE	p
1.	Pretest vs Posttest	42.000	2.726	<0.01
2.	Pretest vs Follow up	45.714	2.643	<0.01
3.	Posttest vs Follow-up	3.714	1.924	>0.01

Based on the results, it can be concluded that CBT approach group counseling with active music therapy technique can significantly reduce millennials student academic anxiety of BK Unika Atma Jaya at pretest vs. posttest, pretest vs follow-up, and posttest vs follow-up.

Figure 4. Estimated Marginal Means of Group B

3.3. Comparison of Effectiveness of CBT Counseling Group with Passive vs Active Music Therapy

Based on the results of ANOVA Repeated Measures test on test of within-subjects effect, it was found that group A (with passive music therapy technique) with $F = 117.505$ and $p = 0,00 < 0,01$, and group B (with active music therapy technique) with $F = 213.495$ and $p = 0.00 < 0.01$. It can be concluded that H_a is accepted and H_o is rejected, so there are significant differences in pretest, posttest and follow-up results of research subjects. The difference is due to the provision of group counseling treatment with CBT approach through passive and active music therapy techniques. The effectiveness difference between CBT counseling with passive and active music therapy techniques in reducing student academic anxiety can be seen in table 7. below:

Table 7. Comparison of Repeated Measures Academic Anxiety of Passive dan Active Music Therapy Group

Group		Pretest	Posttest	Follow-up	F	p
Passive Music Therapy	M	94.71	47.71	53.86	117.505	0.00
	SD	5.407	4.386	8.295		
Active Music Therapy	M	92.57	50.57	46.86	213.495	0.00
	SD	3.910	8.619	9.616		
Z		-.770	-.512	-1.407		

From the comparison plot of academic anxiety of group A and B above, the result of the millennials students' academic anxiety level in group A (with passive music therapy technique) at pretest ($M = 94.71$, $SD = 5.407$) was significantly higher than when posttest ($M = 47.71$, $SD = 4.836$), and at follow-up ($M = 53.86$, $SD = 8,295$), although there was a slight increase in millennials student academic anxiety from posttest to follow-up ($MD = - 6.143$, $SE = 3.011$). This finding is in line with H_a 's prediction that CBT group counseling with passive music therapy techniques is effective in reducing millennials student academic anxiety. Furthermore, group B (with active music therapy technique) at pretest ($M = 92.57$, $SD = 3.910$) was significantly higher than at posttest ($M = 50.57$, $SD = 8.619$), and at follow-up ($M = 46.86$, $SD = 9.616$). In this group, there was a decrease in millennials student academic anxiety from posttest to follow-up ($MD = 3.714$, $SE = 1.924$). These findings are also in line and answer the prediction of H_a which states that there is a difference of effectiveness level between CBT group counseling with passive music therapy and active music therapy technique toward millennials student academic anxiety in preparing the undergraduate thesis.

Based on table 7. above it can be seen that there are differences in counseling group effectiveness using passive music therapy and active music therapy techniques in reducing millennials student academic anxiety. It can

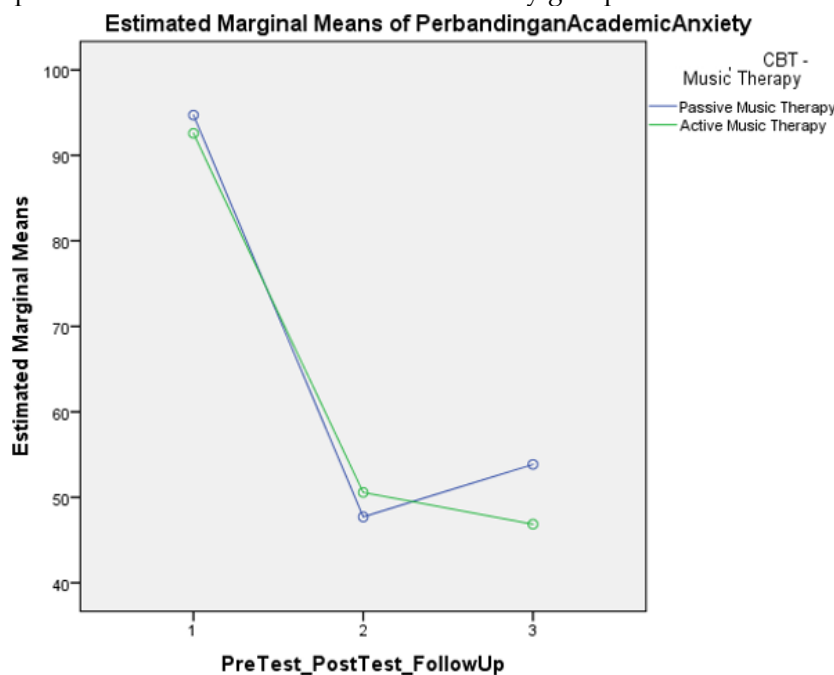
be known by the value of z on pretest ($z = -0.770$), posttest ($z = -0.512$), and follow-up ($z = -1.407$). Further to see the significant difference in the measurement in this study can be seen in table 8. below.

Table 8. Pairwise Comparisons Academic Anxiety of Passive and Active Music Therapy Group

Group	Comparisons	MD	SE	p
Passive Music Therapy	Pretest vs Posttest	47.000*	2.795	.000
	Pretest vs Follow-up	40.857*	4.056	.000
	Posttest vs Follow-up	-6.143*	3.011	.262
Active Music Therapy	Pretest vs Posttest	42.000*	2.726	.000
	Pretest vs Follow-up	45.714*	2.643	.000
	Posttest vs Follow-up	3.714*	1.924	.305

In table 8. it can be seen that in pretest vs. posttest, passive music therapy (MD = 47,000) is more effective for reducing academic anxiety compared with active music therapy (MD = 42,000). In pretest vs follow-up, active music therapy (MD = 45.714) is more effective for reducing academic anxiety compared with passive music therapy (MD = 40.857). Furthermore, in posttest vs. follow-up, active music therapy (MD = 3.714) was more effective for reducing academic anxiety compared with passive music therapy with an increase in academic anxiety (MD = -6.143) after two weeks of treatment. For more details can be seen in Figure 5. below.

Figure 5. The Comparison Reduction Plot of Academic Anxiety group Passive and Active Music Therapy



Based on figure 5. above, it can be seen comparison of CBT group counseling by using passive and active music therapy technique in reducing millennials student academic anxiety. From table 8. and figure 5. it can be seen that CBT group counseling using passive music therapy technique is more effective to reduce academic anxiety at pretest vs. posttest. Meanwhile, in pretest vs follow-up and posttest vs. follow-up, active music therapy is more effective in reducing millennials student academic anxiety compared to passive music therapy.

4. Discussion

Based on the results of this study showed that through passive and active music therapy gives a decreasing effect on the symptom academic anxiety of millennials students who are working on thesis. This is also supported by interview results where the decrease in the level of academic anxiety felt by the subjects occurred

after attending CBT counseling with passive and active music therapy techniques. The results of this study strongly supports the results of research conducted by Skudrzyk et al. (2014), that the use of music in the counseling process can effectively help individuals understand their emotional and cognitive development. Individuals can listen to songs, or play an active musical instrument. Through music, counselors can make the counseling process more interesting and effective. Similarly, research conducted by Bradley et al. (2014) that through music can help counselors and counselors in reframing ideas, focusing perspectives, emotional externalization, and deepening understanding of an experience or problem.

The use of music in the counseling process has many therapeutic benefits. Gladding (2016) also revealed that one counseling strategy to reduce and overcome emotional anxiety and tension is a relaxation technique through music therapy. Relaxation techniques are effective coping skills to reduce anxiety levels. The existence of music as a medium of therapy is one of the interesting phenomena to be studied and developed. Music is used as a medium to calm, and helps counselees to feel comfortable, so the counseling process becomes more effective (Capuzzi & Gross, 2011; Sharf, 2012; Situmorang, 2017a; 2017b; 2018; White & Davis, 2011).

The findings of this study also further support the findings of other researchers who have proven the effectiveness of integration of music therapy with CBT approach in the counseling process, including Rogers et al. (2007) that explicitly integrate both, as well as Fredenburg and Silverman (2014), Hui-Chi Li et al. (2015), Vargas (2015), Zhang et al. (2017) who implicitly integrate music therapy with the CBT approach. In the group of passive music therapy, this study is able to help the subject of research to realize the anxiety experienced, then the subject of the study can evaluate the anxiety is based on the experience of his past is sad. Furthermore, research subjects are invited to make peace with their past experiences, and optimize their ability to complete the undergraduate thesis well through receptive / passive listening activity with guided imagery (Situmorang, 2018). Meanwhile, in the group of active music therapy, this research can help research subjects to be able to realize the negative thoughts that cause the academic anxiety experienced, then the subject of the study can evaluate the mind that caused the academic anxiety, and subsequently research subjects can explore to change negative thoughts about himself and his environment through active musical activity, ie composing, improvising and re-creating music (Situmorang, 2018).

Scientifically, music can affect the body, mind and emotions, so as to provide calm and peace when increased mental activity while reducing stress due to stress or anxiety (Djohan, 2006). These conditions affect the part of the human brain associated with emotional processes, especially in the hypothalamus (Vianna, Barbosa, Carvalhaes, & Cunha, 2012). An individual who has an anxiety is caused by the high production of the hormone thyroxine in the human brain. A person who undergoes a negative emotional process will stimulate the hypothalamus to produce high levels of thyroxine hormone.

This is what causes the individual easily tired, easily anxious, easy tension, easy fear, and insomnia, so that individual circumstances become less optimal. To cope with that, according to Mucci & Mucci (2002) one must be able to balance themselves in every condition experienced. The human brain has four natural morphine body that is positive hormone that can relieve disease and make life become happy. Morphine is the hormone endorphin, dopamine, serotonin, and oxytocin. The function of the natural morphine-morphine can make the body become more relaxed, so as to reduce anxiety or stress.

Wigram, Pedersen, & Bonde (2002) explain that one of the interventions to increase the production of endorphin and serotonin hormones is by relaxing through listening to music. Psychologically, music has a positive relationship in human life. Music, can make a person more relaxed, reduce stress, create a sense of security and prosperity, increase happiness, and help relieve pain (Djohan, 2006). This is also reinforced by research conducted by Laura, Sylvie, and Aurore (2015) and Zarate (2016) that music can increase the production of endorphin and serotonin hormones that cause an individual to feel happier and reduce anxiety experienced.

The majority of subjects said that after listening to music passively and actively playing the music, the subjects felt more relaxed, calm, peaceful, comfortable, so as not to feel anxious, worried, confused and most importantly that can help and motivate to do undergraduate thesis without procrastination. This is in line with the opinion of Djohan (2006) and the results of research conducted by Bibb, Newton, and Newton (2015),

Fox and McKinney (2015), Gutiérrez and Camarena (2015), Hatice Çiftçi and Öztunç (2015), Lilley, Obercle, and Thompson (2014), Rosanty (2014), Situmorang (2018), who explained that listening and playing music in general can be used to cure stress or anxiety, because music has the power to create a relaxed state in the individual so that this relaxed state causes balance of body metabolism and hormonal.

From the results of the research that has been done on group A (passive music therapy) and group B (active music therapy) to reduce academic anxiety, there is a difference of effectiveness that in pretest vs. posttest, passive music therapy is more effective to reduce academic anxiety compared with active music therapy. In pretest vs follow-up, active music therapy is more effective for reducing academic anxiety compared with passive music therapy. Furthermore, posttest vs. follow-up, active music therapy is more effective for reducing academic anxiety compared with passive music therapy with an increase in academic anxiety after two weeks of treatment. This difference in effectiveness is similar to the results of research conducted by Laura and Aurore (2015) states that active music therapy is more effective in treating anxiety and depression disorders experienced by patients.

This is also similar to the research conducted by Atiwannapat et al. (2016) who stated that the reduction of major depressive disorder symptoms was slightly greater in the active music therapy group compared with the passive music therapy group. In addition, another study conducted by Ilie (2013) showed that the group of participants who played music had a significant decrease in cortisol levels compared with those who just sat in silence (the group that listened to music). However, as expected, participants in the group who listened to the music showed a significant decrease also in cortisol levels although not as big as the group that played the music.

In group A (passive music therapy), all group members dramatically decreased academic anxiety at pretest vs. posttest. However, at the time of pretest vs follow-up, there was only one subject that experienced a very striking change and the other subjects did not experience a decrease, even as an increase in academic anxiety. The most noticeable subjects were RC as one of subject who had decreased levels of academic anxiety quite high at posttest vs follow up. This indicates that the effects of passive music therapy perceived by RC as subject persist for long periods of time, besides being supported also by the intensity of the subjects in listening to music for two weeks three times. According to Berlyne (in Djohan, 2010) one of the related factors when someone listens and plays music is familiarity, so the more often someone listens and plays music, the hedonic value will increase. Meanwhile, in the six other subjects seemed to experience an increase in academic anxiety score during posttest vs. follow-up. This indicates that passive music therapy perceived by the six other subjects did not persist for long periods of time and when viewed from the intensity of listening to music, the six subjects listened to music in quite a few for two weeks.

In contrast, the case with group B (active music therapy), all group members experience dramatically decreased academic anxiety at pretest vs. posttest. However, at the time of pretest vs follow-up, there was only one subject that experienced a significant change and the other subjects did not increase, but also decreased academic anxiety. The most noticeable subjects were BKK as one of subject who experienced an increased level of academic anxiety at posttest vs follow up. This indicates that the effect of active music therapy perceived by BKK as subject can not survive for long periods of time, but it is also supported by the lack of subjects in playing music for two weeks.

According to Berlyne (in Djohan, 2010) one of the related factors when someone listens and plays music is familiarity, so the more often someone listens and plays music, the hedonic value will increase. One subject that did not increase or decrease (stable) during pretest vs follow-up of ST as a subject. This shows that the effect of active music therapy is felt by the subjects in the short term and still lasts long until the follow-up (two weeks). While on the other five subjects seemed to decrease academic anxiety score at posttest vs. follow-up. This shows that active music therapy perceived by the other five subjects not only survives in a short time period and when viewed from the intensity of playing music, the five subjects played music in varying amounts for two weeks.

5. Conclusion

In this research can be concluded that through counseling group approach CBT with passive music therapy technique and active music therapy can effectively reduce academic anxiety millennials student of BK Unika

Atma Jaya. Based on this, the findings of this research can provide a new understanding for the development of psychology and counseling in Indonesia, that the use of conventional counseling approach that is integrated with music therapy has proven effective in reducing academic anxiety of undergraduate thesis. From the results of this study, it is expected that psychologists and counselors in Indonesia can use CBT group counseling with passive music therapy and active music therapy techniques to help millennials students who experience academic anxiety at the time of preparing the undergraduate thesis. Then, it is hoped that the next researcher can test the effectiveness of CBT group counseling with passive music therapy technique and active music therapy with true-experimental design with random assignment in each group to produce two equal groups. In addition, through further research is expected to get different findings in enriching the treasury of psychological science and counseling in accordance with the development of the current era.

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A Model for the Instructional Factors of Curatorial Teaching in Design Education

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ABSTRACT

The increased demand for design exhibitions directly reflects the demand for designer-curators to manage cultural policies and social needs. However, in the current design education system in Taiwan, no curation-related curriculum planning exists. Therefore, this study attempted to design a practical curation course focused on “designer curated exhibition” experiential learning. This study encouraged design students to consider the formation of exhibitions from a comprehensive point of view. The teaching and learning process gave rise to a model of the instructional factors of curatorial education. We found a positive correlation between “learning process and motive” and “learning effectiveness.” Moreover, positive correlations were observed between “curation theories,” “learning processes and motives,” and “curatorial experience.” This demonstrates that curatorial practice increases the curator’s ability to apply curatorial theory, and excites the curator’s motivation to learn. However, the performance of self-evaluation reflects a lack of self-confidence and recognition; this lack may be caused by the restrictions of time and space, and by the complexity of curating teamwork communication. This model will continuously be translated and validated through the curriculum in the future, and the course will encourage students’ self-learning to enhance practical teaching and planning.

Keywords:

Curatorial Teaching; Instructional Factor; Design Education; Learning Effectiveness

1. Introduction

The thriving development of Taiwan’s design industry in recent years has caused the design-exhibition industry to flourish. Taiwan has a growing awareness of the necessity to foster new curators. The National Culture and Arts Foundation of Taiwan has launched the “curator-empowering training system” at Hong-Gah Museum in an attempt to foster curators systematically. Nonetheless, many curatorial scholars in Taiwan have noted the lack of effective learning platforms and channels for fostering curators. Direct contact with people who have practical experience is unavailable. Instead, students receive “experience instruction” or experience in the practical operation of small exhibitions, resulting in a disconnection between theories and practice (Lin Ping 2010). Current design incubation emphasizes trends and demand for talent incubation. Hence, design educators must establish solid foundations in the knowledge and practice of curation.

For this reason, we codesigned a course of “art administration and curatorial practice” with a graduate institute of design. We collaborated with instructors to jointly design the content of a curatorial program for a department of design. This program was based on an instructional core that enables students to experience the roles of curators. Students observed, evaluated, and reflected on the curatorial knowledge learned

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through experiencing curatorial work in person in a learning scenario. Moreover, the study explored the specific factors that influence the learning effectiveness of curatorial education. Thus, the primary objectives of this study were (1) to analyze the correlations between factors that influence the effectiveness of curation learning experiences and indicators of learning effectiveness and (2) to analyze the effect of the correlations of all factors that influence the effectiveness of curation learning experiences. In addition, this study provided conclusions regarding the factors that influence the effectiveness of curatorial education in the department of design.

2. Literature review

2.1 Educational meaning of curatorial design

A curator is an intermediary who makes outbound connections from network nodes, integrates the information within an organization, and reproduces ideas. Curators establish links to launch exhibitions successfully (Lu 2004). The work of a curator not only involves the contents of various projects but also requires numerous talents, including art, history, brokerage, mediating and coordination, publicity, exhibition design, and fundraising skills (Heinich & Pollak 1996). Such work requires fair, equitable, and open coordination with all parties to form a social network effect for the exhibition. Moreover, the curation of an exhibition requires the application of design and art knowledge, writing and verbal expression, work piece selection and planning, the creative skill of presenting the exhibition hall visually and in three dimensions, as well as coordination, communication, and problem solving (Wu C.C. 2011). Lin (2010) specifically mentioned that the incubation of curators requires seven capacities, including history, classics technology, and control of contemporary issues, interdisciplinary technology, field surveying, ethics, and reflectiveness. A contemporary curator must be a responsive and temporary organizer whose role changes at all times to link with different units (Ernest et al. 2009). Moreover, because the conceptual importance of curation in discourse becomes increasingly technical, curatorial education training centers must help curators to establish a foundation in theories, conceptual focus, and the different appearances of topic presentation. Curation instruction is integrated with design instruction to train students to integrate planning with their expertise in design and arts.

2.2 Evaluation indicators for learning effectiveness

Learning effectiveness refers to the changes in knowledge, skills, and attitude manifested within students after instruction (Piccoli 2001). Betz & Klingensmith (1970) proposed the following six dimensions of learning effectiveness: school environment and equipment, administrative measures and planning, instructor characteristics, instructional method, learning effectiveness, and peer relationships. Field & Giles (1980) expanded the six dimensions into the following eight dimensions: academic enlightenment of teachers, academic enlightenment of peers, participation in the school's administrative decisions, interpersonal relationships with peers, teacher–student relationships, freedom of planning activity, academic achievement, and study pressure. Ma (1989) discussed four dimensions, namely teachers, courses, learning effectiveness, and international relationships. Various subsequent studies have adopted these four factors of effectiveness for evaluation (Wu W.R. 1992; Zheng 1995; Chen 1995; Wang 2003).

Scardamalia & Bereiter (2006) suggested that learners must be motivated to learn and that the psychological learning process is a mediator that should not be neglected for its influence on learning effectiveness. Hence, “learning processes and motives” is also included as one of the metrics for learning effectiveness. The constructs for learning effectiveness are as follows: theoretical enlightenment, course design, teacher instruction, learning environment, learning outcome, faculty, interpersonal relationships, administrative measures, and teacher–student interaction. In the current study, diverse viewpoints on the evaluation of learning effectiveness were compiled from the literature; four factors of curatorial learning effectiveness are listed in Table 1, in accordance with the planning and content of curation instruction. These factors include curatorial theories, learning processes and motives, self-evaluation, and curatorial experience. The six evaluation indicators of learning effectiveness are given in Table 2.

Table 1. Influence factors on learning effectiveness of curation (23 items)

Curatorial Theories	A1. Improve my planning capacity for curation through learning.
	A2. Help me think and express the concepts for curatorial issues.
	A3. Understand the work content of curation.
	A4. Improve my thinking capacity for curatorial issues through learning.
	A5. Enhance my comprehension of the implementation process of curation thorough learning.
	A6. Improve my proposal skills through learning.
Self-Evaluation	A7. Perceive satisfaction toward self-performance after learning.
	A8. Understand self-characteristics and capacity after learning.
	A9. Review and revise flaws.
	A10. Compile team opinions and collectively solve the problems and difficulties encountered.
	A11. Improve my capacity for topic research and creative thinking
	A12. Enhance my philosophy of teamwork.
Learning Processes and Motives	A13. Course planning offers systematic and organizational learning.
	A14. Course planning and content are intermediate for me.
	A15. Overall improvement of my acquaintance with and hands-on experience of curation.
	A16. Collaborative teaching with instructors helps me learn in-depth and understand curatorial courses.
	A17. The professionalism of instructors helps me learn curatorial knowledge.
	A18. The arrangement of curatorial reflection helps me comprehend myself and enhances learning effectiveness.
Curatorial Experience	A19. Practical drills enhance my creative aspiration for curation.
	A20. Practical drills help me understand the method for focusing on issues.
	A21. Professional theories and practice are introduced and applied.
	A22. Curatorial experience helps me use, plan, and learn about exhibition space.
	A23. Practical drills help me in thinking and facilitate my effective interaction with the audience.

Table 2. Evaluation indicators of learning effectiveness (6 items)

Learning Effectiveness	B1. Emphasis on both the theories and practice of curatorial planning.
	B2. The content of curatorial course helps with practical learning.
	B3. Helping me with the expansion and learning of new knowledge.
	B4. Enhancing my understanding and acquaintance with curation.
	B5. Meeting my learning expectation and goals in curation.
	B6. Improving my professional skills related to curation.

3. Research method and implementation of curation instruction

3.1 Research process

The curation instruction and research process is shown as figure1. The instruction included two parts, which were curatorial planning theory and curatorial practice. The content of curricula curatorial planning theory was composed by curatorial thesis, international curating case studies, proposal writing and spatial decoration. After the course, which included first-hand experience of actual curating an exhibition, the students completed a questionnaire survey regarding the effectiveness of the instruction. This study adopted semi-structured questionnaires as the evaluation method for instructional performance. The subjects were 11 students, including first and second-year master's program students and senior undergraduate students majoring in industrial design.

The questionnaire survey scale included two parts, namely factors influencing the learning effectiveness of curation and indicators of learning effectiveness. After the questionnaires had been completed, they were analyzed through SPSS software. In addition to a general descriptive statistical analysis of teaching effectiveness, the statistics were analyzed for the correlation between the indicators of the two parts; relevant coefficients were examined for analysis of the factors influencing curatorial education. Moreover, the contents of interviews before and after the instruction were compared and incorporated to expound the teaching content for reference and for the development of curation teaching.

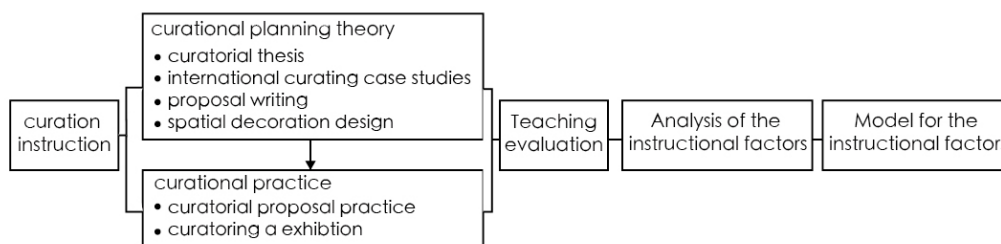


Figure 1. Instruction and research process

3.2 Research model and hypotheses

This study emphasized a relationship model between the factors that influence learning effectiveness and the indicators of learning effectiveness, as shown in figure 2. Specifically, the four influence factors of the learning effectiveness of curation (curatorial theory factors, self-evaluation, learning processes and motives, and curatorial experience) were explored in terms of the indicators of learning effectiveness. The research model of the study is shown in H1–H6.

H1: Analyze the correlations between the factors of effective learning of curation and the indicators of learning effectiveness.

H2: Analyze the relevant influence of curatorial theory factors on learning effectiveness.

H3: Analyze the relevant influence of self-evaluation factors on learning effectiveness.

H4: Analyze the relevant influence of learning processes and motives factors on learning effectiveness.

H5: Analyze relevant influence of curatorial experience factors on learning effectiveness.

H6: Analyze the correlation between the factors of curation learning effectiveness.

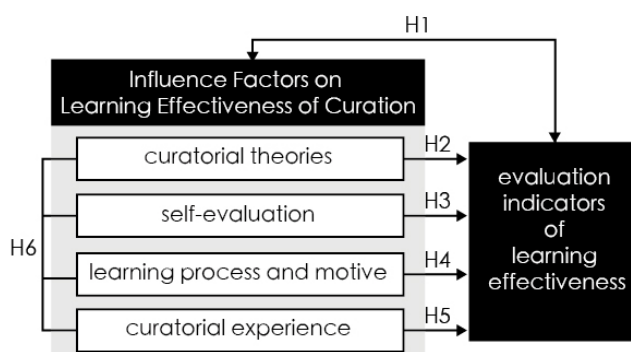


Figure 2. Research model

4. Results and analysis

Eleven questionnaires were collected from the students who received instruction; nine of the questionnaires were valid. The respondents were all from the same department and they were aged between 21 and 23 years. Despite the small sample size, the samples had a high level of similarity and a centralized background; hence, the results of the questionnaires underwent a statistical analysis of variance. The statistics were then incorporated with the qualitative data from in-depth interviews to draw conclusions regarding the instructional factors of curatorial education through quantitative comparison.

4.1 Overall performance of curatorial education

The overall evaluation of curation instruction is shown in Table 3. The highest possible positive evaluation for questionnaire results was 7. B2 received the highest overall score in the evaluation of learning effectiveness, followed by A22, A21, and B4, which obtained relatively high evaluations. Moreover, among curation instruction factors, A7 received the lowest evaluation, followed by A8, A6, and A19, which obtained relatively low evaluations.

Table 3. Means and standard deviations of the questionnaire items for curation instruction factors

Factors	Evaluation Indicators of Learning Effectiveness						Curatorial Theories						Self-Evaluation						Learning Process and Motive						Curatorial Experience					
	B1	B2	B3	B4	B5	B6	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	
Means	6.0	6.5	6.1	6.2	5.8	6	6	6.1	6.1	6	6	5.5	5.1	5.3	5.7	5.7	5.6	6	5.8	5.7	5.6	6	5.8	6	5.5	6.1	6.2	6.3	6.1	
Standard Deviation	0.8	0.5	0.7	0.6	0.7	0.7	0.5	0.6	0.9	0.5	0.5	0.8	0.9	0.7	0.4	0.8	0.7	1	0.6	0.9	0.8	0.7	0.6	0.7	1	0.6	0.8	0.7	0.6	

These data regarding curation instruction reveal that the understanding of and acquaintance with theories of curation and the perception that instructors were integrated resulted in positive evaluations. However, the post-learning self-evaluation, self-performance, the learning of proposal skills, and acquaintance with self-capacity all had relatively low evaluations. Moreover, the level of difficulty for the course also received a relatively low evaluation. On the basis of overall feedback from the precourse and postcourse interviews, it was inferred that the expectations for exhibitions could not have been met due to the limitations of time, space, and the complexity of curating teamwork communication. Brief curatorial practice could not provide the actual and comprehensive execution of the detailed operations and practices of curation. These findings should be considered when making adjustments and corrections in future courses.

4.2 Factor correlation analysis

The reliability and validity of the questionnaire scale were analyzed prior to analysis of the correlation coefficients. This study verified the reliability and validity of all the factors of teaching effectiveness. The overall Cronbach's alpha coefficients reached as high as 0.962 (Table 4). Moreover, the reliability and validity of the factors was also greater than 0.950, suggesting that questions of the same factors were homogeneous and that the measuring questions of the factors were reliable.

Table 4. Reliability and validity

Cronbach's Alpha	Cronbach's Alpha Cronbach's Alpha Based on Standardized Items	No. of Items
.955	.962	29

4.2.1 Correlations between the factors of learning effectiveness

The correlation coefficients of the correlations between learning factors of curatorial education are shown in Table 5. The table reveals a positive correlation (0.536) between "evaluation indicators of learning effectiveness (B1–B6)" and "learning processes and motives (A13–A18)." A positive significant correlation (0.667*) exists between "curatorial theories (A1–A6)" and "Curatorial Experience (A19–A23)." A positive correlation (0.553) exists between "Self-Evaluation (A7–A12)" and "learning processes and motives (A13–A18)." A positive significant correlation (0.690*) exists between "learning processes and motives (A13–A18)" and "Curatorial Experience (A19–A23)." Moreover, the table also reveals a negative correlation (–.283) between "evaluation indicators of learning effectiveness (B1–B6)" and "Self-Evaluation (A7–A12)."

Table 5. Correlation coefficients for the correlations between the factors of learning effectiveness

	Evaluation indicator of learning effectiveness (B1-B6)	Curatorial theories (A1-A6)	Self-evaluation (A7-A12)	Learning process and motive (A13-A18)	Curatorial experience (A19-A23)
Evaluation indicator of learning effectiveness (B1-B6)	1	.281 .463	-.283 .460	.536 .137	.167 .668
Curatorial theories (A1-A6)	.281 .463	1	.289 .450	.446 .228	.667* .050
Self-evaluation (A7-A12)	-.283 .460	.289 .450	1	.553 .122	.488 .182
Learning process and Motive (A13-A18)	.536 .137	.446 .228	.553 .122	1	.690* .039
Curatorial experience (A19-A23)	.167 .668	.667* .050	.488 .182	.690* .039	1

* Correlation is significant at the 0.05 level (two-tailed)

4.2.2 Correlations between the factors of curatorial learning effectiveness

Regarding the correlation of questions between factors, the correlation coefficients reveal a positive significant correlation between the questionnaire items for three factors, namely curatorial theories, self-evaluation, and learning processes and motives. These correlations are interpreted in this section. A positive significant correlation (.678*) exists between B5 of the evaluation factor of learning effectiveness and A18 of the learning processes and motives factor, suggesting a positive influence of course planning that provides systematic and organizational learning (A18) instruction for the goals in curatorial learning (B5). However, a highly significant negative correlation was observed between the evaluation factors of learning effectiveness of A7 (-.612) and A12 (-.722*), which are factors of self-evaluation, indicating the influence of a negative significant correlation on self-satisfaction and teamwork in terms of the actual execution of curation.

The questionnaire items for the curation planning and learning of A1 (curatorial theory) revealed a high level of positive significant influence on A13, A15, and A17 (learning processes and motives). Moreover, positive correlations were observed for the content of curatorial planning instruction with the aspiration of curatorial creativity (.832**), the expansion and application of curatorial theories and practice (.866**), and helping students think and interact with the audience (.832**). A high level of positive significant correlation exists for A2 (curatorial theory factors) with A20 (1**) and A19 (.818**; curatorial experience), A14 (.904**) and A15 (.801**; learning processes and motives), and A10 (.804**; self-evaluation). The results suggested positive correlation between helping students with curatorial thinking, conveying acquaintance with curation, level of hands-on difficulty and focus of curatorial topics, theories and practice, and problem solving in teams. A positive significant correlations exist for A3 (curatorial theories) with A13 (.697*) and A17 (.697*); learning processes and motives), suggesting that, for the understanding of curatorial work, a positive correlation of practical drills operates between the creative aspiration and thinking in curation as well as with the interaction with the audience.

A4 and A5 were significantly correlated with the curatorial theories and learning processes and motives factors with the exception of A18, suggesting that the thinking training for curatorial issues and the comprehension of curatorial process in curatorial teaching have a positive correlation with the theoretical and practical application in learning process and actual curatorial operations. A6 (curatorial theories) was only significantly correlated (.802**) with A23 (curatorial experience factors), suggesting that enhancing curatorial skills positively correlates with the comprehension and outcome of self-learning.

High levels of positive correlation exist between A9 (self-evaluation) and A13 (.839**; learning processes and motives) and between A16 (.802**), A17 (.839**) and A13 (.839**), suggesting that the review and correction for self-deficiency in curatorial practice drills have influence on the positive correlations between enhancing creative aspiration for curation, spatial application and design, and the interaction with the audience in curatorial thinking. A high correlation exists between A2 (.804**) and A10 (curatorial theory), A14 (.857**; learning processes and motives), and A20 (.804**), A21 (.800**), and A22 (.778**; curatorial experience), suggesting that the concept and expression of learning curation, focus on curatorial issues, and the professionalism of instructors will help increase acquaintance with curation, thus enabling students to solve problems and difficulties in the curatorial practice training.

Among the factors of learning processes and motives, a high level of positive significant influence operates between A13 and A1 (.832**), A4 (.832**) and A5 (.832**; curatorial theories), and A9 (.839**; self-evaluation) and A21 (.804**; curatorial experience). This significance suggests that some positive correlation operates between curatorial planning capacity, thinking regarding curatorial topics, and comprehension of curatorial processes within the creative aspiration of curation. A2 (.904**) and A4 (curatorial theories), A10 (.857**; self-evaluation), and A19–A22 (curatorial experience) exhibit high levels of significant correlation, suggesting that students learning the concepts and expressions of curatorial issues and the collaborative teaching of instructors have a positive significant influence. Among the questions for A15, curatorial theory factors have high levels of positive significance except for A3. A high level of positive significant correlation exists between A11 (.816**; self-evaluation) and A20 (.801**; curatorial experience). The results reveal positive correlations between the comprehension of curatorial work, theories, and practical applications, as well as between the research and creative thinking capacity for curatorial issues and the upgrade of overall acquaintance. A positive significant correlation exists for A17 with A1 (.832**), A4 (.832**) and A5 (.832**;

curatorial theory), A9 (.839**; self-evaluation) and A21 (.804**; curatorial experience), suggesting that positive correlation exists between curatorial planning, thinking ability in curatorial issues, comprehension of curatorial process, collaborative instructor teaching, and thinking and interaction with the audience; in addition, these qualities affect self-performance and confidence in curating execution.

The high level of positive correlation for A19 (curatorial experience factors) with A2 (.818**; curatorial theories) and A14 (.809**; self-evaluation) suggests a positive correlation between the instructional plan for the comprehension of concepts in curatorial topics and methods and the level of learning difficulty in students. Positive significant correlations exist for A20 with A1–A4 (curatorial theory factors) and A10 (.804**), A14 (.904**), and A15 (.801**; self-evaluation), suggesting a positive correlation between the acquaintance with and practice of curation, curatorial planning, and the thinking and comprehension for the process and issues. A21 has a positive significant correlations with A9 (.832**) and A10 (.800**; self-evaluation) and A13 (.804**), A14 (.840**), and A17 (.804**; learning processes and motives), suggesting that the collaborative teaching methods of instructors has positive correlations with the self-examination and cooperation in teams, focus on curatorial issues, creative thinking, and interaction with the audience. A positive correlation exists between A23 and A4–A6 (curatorial theory factors), suggesting that the arrangement of reflective instruction for curation has a positive correlation with the learning and reflection of self-curatorial theories.

4.3 Model for instructional factors of curatorial education

The correlation analysis reveals that the following model can be formed (Figure 4) based on the learning factors of curatorial education. The findings demonstrate that a positive correlation exists between the factors of “learning processes and motives” and “evaluation indicators of learning effectiveness,” suggesting that this specific correlation exerts some influence on learning effectiveness and particularly that an organizational learning process can enhance the expectations and objectives of learning. Moreover the relationships between the four factors of curatorial teaching reveal a close and significant positive correlation between “learning processes and motives” and “curatorial experience.” Further analysis of the relevant coefficients suggested that the thinking and focus of curatorial issues and the repurposing of outcomes from curatorial theories and actual curatorial experience in the learning process are positively correlated, thus enhancing the acquaintance of students with curatorial work overall and helping teams solve problems jointly.

Furthermore, a positive correlation exists between the upgrading of curatorial skills in the instruction and the comprehension and outcomes of self-learning. However, mutual positive correlations exist between “self-evaluation,” “learning processes and motives,” and “curatorial experience.” The coefficients for all questions specifically indicate that the method of instructors’ collaborative teaching has a key influence on the exhibition design and teamwork execution; this can assist students to examine their roles in their teams, to reflect on their doubts regarding curatorial execution, and to correct themselves. Likewise, the negative correlation between self-evaluation and learning effectiveness must be considered. Future course planning can consider this negative correlation to boost students’ self-satisfaction, sense of achievement, and guided teamwork through the execution of curatorial practice.

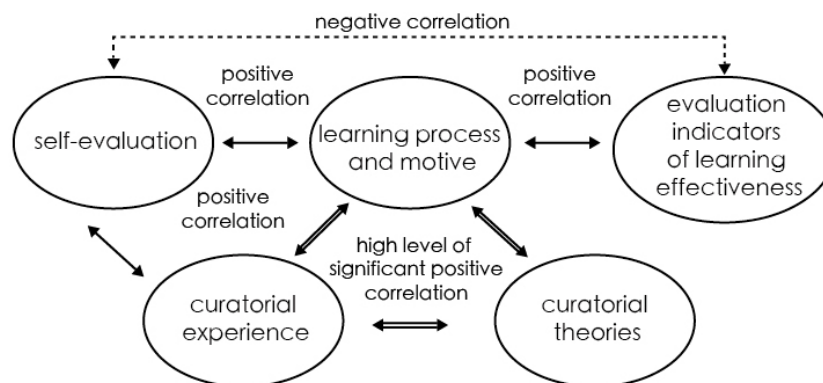


Figure 4. Model for the instructional factors of curatorial education

5. Conclusion and suggestions

With the expansion of curation, every item in a collection can be curated (Lu 2013). The concepts and issues of curation constantly transform, regenerate, and overturn through physical, digital, cloud, and virtual natures by constant self-improvement. Because Taiwan currently faces a substantial demand for curators, courses for curatorial education urgently require expansion and development. Few courses focus on the characteristics of designers or introduce curatorial education into the context of design incubation. The course planning within this study considers the characteristics of design students and the required professional knowledge related to curation. The study also incorporates the practical experience of instructors and explores curatorial teaching to enable students to minimize the difference between their cognition and hands-on experience through learning and application. Two main research contributions of this study are summarized as follows.

The study reviewed the literature regarding curation instruction and proposed four factors of curatorial learning effectiveness (curatorial theories, learning processes and motives, self-evaluation, and curatorial experience), and six indicators of learning effectiveness. The aforementioned factors can provide reference for scalable, statistically reliable research on curation instruction effectiveness. Moreover the analysis of these factors' correlation coefficients showed positive correlations between the four curatorial learning effectiveness factors with learning processes and motives and learning effectiveness. The study emphasizes the systematic design of curatorial courses and enables students to apply the knowledge they acquired from coursework. For practical apprenticeship with actual curatorial experience, the cooperation with instructors has a positive influence on learning effectiveness. This influence notably improves creative thinking for curatorial topics, relevant thinking, and focus with specific evaluation of the learning effectiveness.

The correlation analysis of curatorial learning effectiveness includes a model of curation instruction factors. In particular, learning processes and motives, curatorial theories, and curatorial experience show high levels of significant correlation. The concept of curation has increasingly surpassed the technical dimension in previous studies. This study adopted a curatorial experience approach to establish a foundation in students. Theories were applied to implement the concepts in the form of practical drills presented in the context of specific topics. Design students have skills in product design and printing as well as in professional product development, and they used those skills in the curation course.

Nonetheless, the curation of an exhibition is an integrated series of tasks involving conceptual thinking, the deepening of ideas, proposal for self-perspectives, the exhibition of integration, context layout, and categorization, spatial design and movement planning, and exhibition activity planning. These tasks involve social concepts, historical context, and art design background. Such concepts are closely related to curatorial education. Hence, for future course planning, the design and execution of the three factors should be closely connected.

Moreover, in the curatorial practice drills, students have little experience in accessing and handling multiple curatorial affairs within a short period of time, which can affect the self-evaluation of learning. Therefore the execution time for practical curation should be divided into short intervals. The execution should be divided into small drills. Consequently students will be able to accumulate and familiarize themselves with the actual planning work of curation sequentially during the different stages of learning. This will enhance the validity of curatorial education.

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Barriers to Antenatal Care Use, Child Birth Experience and Level of Education on Actual Attendance among Pregnant Women

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ABSTRACT

Despite the wide spread awareness regarding the need to improve maternal health, maternal mortality remains a great concern in Nigeria. Consequently, the importance of medical attention required in the care of pregnant women cannot be over emphasised. This study investigates the influence of barriers to attending antenatal care among pregnant women in Ibadan. Using a survey method, a total of 114 pregnant women were purposively selected from Akinyele Local Government Area of Ibadan. Data were analyzed using descriptive statistics, t- test and one way analysis of variance at 0.05 level of significance. Three hypotheses were tested. Results revealed that pregnant women who had more barriers (N = 54, mean = 4.5) were less likely to attend antenatal care than women who had fewer barriers (N = 60, mean = 5.6). Pregnant women who had no children (nulliparous) attended antenatal care more than pregnant women who have had at least one child (multiparous) (t (112) = 1.2 p < 0.05). Thus, barriers should be reduced by making antenatal care mobile and health care givers should be re- trained to develop more positive attitude towards better service delivery especially to pregnant women during antenatal period.

Keywords:

Barriers, Antenatal care, Actual Attendance, Pregnant Women, Public Hospitals

1.Introduction

Antenatal care refers to the regular medical and nursing care recommended for women during pregnancy. It is a preventive care that provides regular check-up by allowing doctors or midwives to treat and prevent potential health problems during the course of pregnancy (U.S. National Library of Medicine, 2012). Antenatal care is crucial considering the statistical estimate that 25 percent of maternal deaths occur during pregnancy, with variability between countries depending on the prevalence of unsafe abortion, violence, and disease in the area. Researchers have also revealed that certain pre-existing conditions become more severe during pregnancy. Imad and Bhutta (2011) and Kramer and Kakuma (2003) for example indicated in a study of six West African countries that a third of all pregnant women experienced illness during pregnancy, of which three percent required hospitalisation. Pregnancy poses varying levels of health risk for women, depending on their medical profile before pregnancy. The American Pregnancy Association (2008) noted that due to physiological changes noticed in women during pregnancy, the body system, therefore becomes vulnerable to diseases which may cause some of the complaints that may occur during or after pregnancy, such as pregnancy induced hypertension, anaemia, back pain, carpal tunnel syndrome, constipation, oedema

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(swelling), among others. The individuality of the health status in terms of diseases or other health related conditions (not directly caused by the pregnancy) of each woman may become worse or be a potential risk to the pregnancy (Ryan, Milis, & Misri, 2005).

Opportunities for Africa's New Borns (2010) report suggested that, the goal for antenatal care is to prepare for birth and parenthood as well as prevent, detect and reduce pregnancy complications and other types of health concerns that affect mothers and babies during pregnancy, pre-existing conditions that worsen during pregnancy and the effects of unhealthy lifestyles. Pregnancy associated health problems are expected to be prevented from mothers and their babies by depending on an operational continuum of care with accessibility, high quality care, before and during pregnancy, childbirth, and the postnatal period. Pregnancy related problems however, depends on the support available to help pregnant women reach services, particularly when sudden complications occur (Tinker, Hoop-Bender, Azfar, Bustreo, & Bell, 2005). Lincetto, Mothebesano-anoh, Gomez and Manjanja (2006) asserted that an important element in this continuum of care is effective antenatal care. Therefore, they concluded that the accessibility of regular prenatal care can play a part in plummeting maternal death rates and miscarriages as well as birth defects, low birth weight, and other preventable health problems. A good antenatal care is believed to provide a woman and her family with the chance of using a skilled attendant at birth and contributes to good health throughout the life cycle.

However, recent research evidence has indicated a high rate of maternal deaths in Nigeria. Lawn, Blencowe & Pattison (2011) ranked Nigeria as number one in Africa and the second in the world after India, in maternal death, as regards saving new born lives, with 241,000 neonatal deaths annually. Similarly, Obasi (2016) reported that 40,000 Nigerian women die annually during child birth and 576 deaths is recorded out of every 100,000 daily live births. It is estimated that babies who die before the onset of labour, or ante partum stillbirths, account for two-thirds of all stillbirths in countries where the mortality rate is greater than 22 per 1,000 births – nearly all African countries (Crowley, 2003). The state of health of pregnant women predicts the health of their unborn children and therefore, it is very important that pregnant women are given the best care (Healthy People 2020, 2014).

It therefore, appears that there are challenges relating to the use of available antenatal care services. The issue is whether pregnant women make good use of these services during pregnancy as expected and if not, what accounts for this attitude. The study carried out by Awusi, Anyanwu and Okeleke (2009) revealed that 43% of the women in Emevor village, Delta State, Nigeria do not adequately utilize antenatal care services during pregnancy. World Development Indicators (2013) revealed that, 57.6 % of pregnant women received antenatal care in Nigeria at least once during pregnancy. Peltzer and Ajegbomogun (2008) also observed that Nigerian women have a tendency to obtain care late in pregnancy, and for about one third of them, the care would be inadequate. They also noted that almost half (47%) of the women would attend the antenatal clinic only in the third trimester, 21% would attend during the first trimester. Ninety-four percent would come for subsequent visits, 77% thrice, 76% four times, 74% five times and 73% six times. Low utilisation was explained by costs as one of the major barriers to utilisation of late and antenatal care. Tayebi, Shahnaz and Rezaali (2013) noted that inadequate prenatal care was associated with poor birth outcomes. The significance of this study, therefore, is to emphasize the risks associated to this attitude of non-use of ante-natal care provided for pregnant women and the dangers it poses to both the pregnant women and the unborn children, who incidentally does not have any power of choice on decisions relating to the use of these antenatal care provisions.

Saving New Born Lives in Nigeria (2011) also observed that the content of antenatal care visit does not reflect a focused antenatal care package of interventions. The coverage of at least one antenatal care visit with a skilled care provider reaches 62% of women. Only 45% make four or more antenatal care visits, and fewer (36%) make their first antenatal care visit during the first three months. Almost forty percent of pregnant women in Nigeria deliver their babies with just a relative or no attendant present at all. 39% of deliveries are with a skilled birth attendant- doctors, nurse/ midwives. Traditional birth attendant assist 22% of births. The proportion of home birth is 90% in the North-West and 87% in the North-East zones of the country. These statistics also refer to the fact that there are a large number of people who do not consistently use the antenatal care in Nigeria or probably encounter barriers which debar them from using the antenatal care (Saving New Born Lives in Nigeria, 2011).

The report above is contrary to the expectations of the World Health Organization of pregnant women towards ante-natal. The body indicates that the first antenatal care visit should be as early as possible in pregnancy, preferably in the first trimester. The last visit should be at around 37 weeks or near the expected date of birth to ensure that appropriate advice and care have been provided to prevent and manage problems such as multiple births, such as twins, post maturity births, such as, birth after 42 weeks of pregnancy, which increases the risk of foetal death and abnormal positioning of the baby. The first assessment in antenatal care is to distinguish pregnant women who require standard care, such as the four-visit model, from those requiring special attention and more visits. Depending on individual situation, approximately 25-30% of pregnant women are likely to have specific risk factors which require more attention (Lincetto, et al. 2006). These women need more than four visits so as to identify their problems at the early stage and reduce the probability of further complications. But if these women do not attend or miss their appointments due to some barriers, which this study aims to identify, it means that these women have their lives and that of their unborn children on the line for death.

According to WHO (2008), inequality also exists among women requiring antenatal care. Young, rural, poor, and less educated women may not benefit from antenatal care services or may drop out due to barriers and low quality services. In addition, another report also shows that household wealth status (being rich) has significant positive effect on the number of visits before delivery (Awusi, 2009). The use of antenatal care service in a given population depends not only on the availability and accessibility of services but also the socio-economic status of the household (Pandey, 2004) There are significant differences in the number of antenatal visits determined by geopolitical zones and the place of antenatal also determines significantly the number of visits (Awusi, 2009). Another study done at Uttarakhand in India supports that full ANC is substantially higher for women living in urban area than their rural counterparts, also, that educational level of women has positive relationship with the use of full ANC (Digambar and Harihar, 2011). This indicates that most rural, poor and uneducated pregnant women would have more barriers in attending antenatal care.

Although some researchers have examined the barriers to the use of antenatal care, there are few recent studies focusing on the influence of barriers on consistent use of antenatal care in Western Nigeria. Therefore, this study intends to investigate the barriers faced by pregnant women on actual attendance of antenatal care. The following research questions are identified: Can barriers faced by pregnant women influence their use of antenatal care? Can child birth experience influence the use of antenatal care? Can the level of education of pregnant women influence their use of antenatal care?

In the light of the above questions, three hypotheses were tested:

1. Pregnant women experiencing less barriers would significantly attend antenatal care more than pregnant women faced with more barriers.
2. Pregnant women with tertiary education would significantly attend antenatal care more than women who had primary education.
3. Pregnant women who had no previous child birth experience would significantly attend antenatal care more than pregnant women who have had at least one child.

2. Method

2.1. Design and Sampling

This research is a survey research design. The independent variables are: barriers to the use of antenatal care, which was categorized into more barriers and few barriers, child birth experience, categorized into no child birth experience and child birth experience, and level of education, categorized into primary, secondary and tertiary education while the dependent variable is actual attendance of antenatal care. Convenience sampling method was used to select Akinyele Local Government General Hospital from the 33 Local Government Public Hospitals while purposive sampling method was adopted in selecting one hundred and

fourteen pregnant women attending antenatal care in Akinyele Local Government General Hospital, whose situations served the purpose of the research, into the study.

2.2. Participants and Setting

A total of 114 participants were drawn from the population of pregnant women attending antenatal care at the General Hospital, Akinyele Local Government, Ibadan. The demographic characteristics of the participants for this study are as follows: the participants' ages ranged between 18 and 42 years, mean age (\bar{x}) = 28.2 years and standard deviation of (SD) = 5.9. On marital status, 107 (93.9%) of the participants were married, while 7 (6.1%) were single. On the participants' type of family, 96 (89.7%) were monogamous while 11 (10.3%) were polygamous. Participants' years of marriage for this study ranged from 1 year (6 months to 1 yr) to 18 years, while the mean is \bar{x} = 4.5 yrs (SD = 5.0). Their educational status ranged from No school = 1 (0.87%), Primary school = 16 (14.0%), Secondary school = 49 (43.0%) to Tertiary school = 48 (42.1%).

2.3. Measures

A structured questionnaire was used for sourcing information for this research. The demographic section includes items such as ethnic group, age, location, educational qualification, marital status, years of marriage, type of marriage, occupation, monthly income, husbands' educational qualification, husbands' monthly income, number of pregnancies, number of children, parity related questions, number of times attended (antenatal care) for previous children and intention to complete antenatal care. Barriers to antenatal care was measured with a newly developed Barriers to Antenatal Care Use Scale by Oyinlola and Sunmola (2013). The scale was developed and standardized for the purpose of the study and it measures the barriers that can hinder pregnant women from attending antenatal care. It consists of 31 items with Yes or No response format. These barriers can be categorized into three levels; they are barriers in the decision to seek care, barriers in reaching care and barriers in receiving adequate care. Sample items include "I don't like the way doctors react towards me at the clinic", "I wait too long to see the doctor", "Pregnancy is a private thing and I don't like to talk about it to any one apart from my family members". All items are in negative direction. The scale would be scored by summing up the responses and divide by 31, higher scores indicate more barriers while lower scores indicate low barriers to antenatal care use. Its Cronbach alpha is 0.63.

Actual attendance was measured by Actual Attendance of Antenatal Care Scale developed by Oyinlola and Sunmola (2013). The scale consists of three items such as: the last appointment you were given did you attend? The last two antenatal appointments you were given did you attend? The last three appointments you were given did you attend all? The participant's responses were confirmed by checking the clinic records for the appointment cards of the pregnant women, which shows the number of times the participants have attended antenatal care. If one antenatal attendance was missed within the last three appointments, it would indicate that the pregnant woman is not frequently adhering to antenatal care appointments. The internal consistency (reliability) of the scale was 0.73.

2.4. Procedure

All the purposively selected participants were adequately informed about the academic nature of the research from the beginning of the study. They were also guaranteed the anonymity and confidentiality of their responses before their consents were obtained. The questionnaire was translated from English to Yoruba and back to English by the experts in linguistics for the purpose of participants who did not understand English and were administered in both English and Yoruba and all participants completed the questionnaires by themselves. The questionnaires were administered with the help of 2 trained research assistants. A total of one hundred and twenty questionnaires were administered out of which one hundred and fourteen were well completed and used for the study. The completed copies were scored and analyzed with Statistical Package for the Social Sciences software, version 17.0. Ethical approval for the study was obtained at the Ministry of Health, Oyo State and informed consent was obtained from the pregnant women. The data gathered were analysed using descriptive statistics, t-test and one way analysis of variance.

3. Results

Table 1. Summary of the independent t-test comparing pregnant women on levels of barriers and actual attendance.

Variable	Barriers	N	Mean	SD	t	df	p
Actual Attendance	Fewer	60	5.6	1.3	5.0	112	0.001
	More	54	4.5	1.2			

Table 1 shows that pregnant women who were faced with more barriers would less likely attend antenatal care compared to pregnant women who were faced with fewer barriers ($t(112) = 5.0, p < 0.05$). This reflects that pregnant women who had fewer barriers ($N = 60, \text{mean} = 5.6$) were more likely to attend antenatal care than pregnant women who had more barriers ($N = 54, \text{mean} = 4.5$).

Table 2. Summary table of Analyses of Variance (Anova) showing the influence of education on actual attendance of antenatal care.

Source of Variance	Sum of Squares	df	Mean of Squares	F	p	Source of Difference
Between Groups	4.1	3	1.4	0.9	0.382	168.6
Within Groups	172.7	110	1.6			
Total	176.8	113				

Table 2 shows that pregnant women who had primary school education were less likely to attend antenatal care compared to pregnant women who had secondary and tertiary education was not statistically significant ($d1-df2 (113) = 0.9, P > 0.05$). This is an indication that participants' levels of education did not influence their actual attendance of antenatal care.

Table 3. Summary table of Independent t-test, showing the influence of child birth experience by pregnant women on actual attendance.

Variable	No. of children	N	Mean	SD	df	t	p
Actual Attendance	No child	53	5.2	1.2	112	1.9	0.050
	≥ 1 child	61	4.9	1.3			

Table 3 shows that pregnant women who had no child would be more likely to attend antenatal care than pregnant women who have had at least one child was statistically significant ($t(112) = 1.2; p < 0.05$). This result reflects that pregnant women who had no child ($N = 53, \text{mean} = 5.2$) were significantly more likely to attend antenatal care than pregnant women who had at least one child ($N = 61, \text{mean} = 4.9$).

4. Discussion

Hypothesis one was confirmed. The pregnant women who were faced with more barriers would less likely attend antenatal care compared to the pregnant women who were faced with fewer barriers. Other studies have noted associations between a woman's lack of rapport with health providers, dislike of going to the doctors (Gazmararian, Schwartz, Amacker and Powell, 1997), perception of the health care system as

threatening or discriminatory (Rogers & Schiff,1996) and late onset of prenatal care (Strickland and Strickland,1996). Seventy nine percent of the pregnant women that belief pregnancy is a private thing and should not be shared with any one aside their family members were not consistently attending antenatal care. In the course of this research this was found to be a cultural issue. It is believed that a pregnant woman should not announce her pregnancy, so that evil spirit would not enter her womb. 43.6% of the pregnant women that use herbs (which is also a barrier) were not consistently attending antenatal care. This research shows that 25% of pregnant women who preferred traditional birth attendants were not consistent in attending antenatal care. All these are the major barriers that pregnant women at the Akinyele local government general hospital were facing which may not make them consistently attend antenatal care.

It is also evident that these pregnant women were still committed to their indigenous care in pregnancy. Lincetto, et al.(2006) also identified that barriers to the access and uptake of antenatal care are financial and cultural. Even though finances can also be an issue, 3.1% of the pregnant women that believed ANC is expensive did not consistently come for antenatal care. Although distance to the antenatal clinic was not significant in this research, this could be because most of them live not far away from the facility, more so, the Oyo State Government provided free buses (Ajumose buses, 2012 - 2016) for selected people including pregnant women within the state which made it easier for women to go to clinics as at when due.

Hypothesis two was not confirmed. Pregnant women who had primary school education were less likely to attend antenatal care compared to women who had secondary and tertiary education. This indicates that pregnant women's level of education did not influence their actual attendance of antenatal care. This could be as a result of previous knowledge and the enlightenment that participants might have had in the past. The World Health Organisation (WHO) and other organisations had funded so many programmes in the past by educating and enlightening women on the advantages of attending antenatal care and the problems that may arise if they do not. This includes birth preparedness, health information and counselling for pregnant women, their families and communities. Relevant information, education and advice regarding appropriate nutrition and rest, promotion for early and exclusive breast feeding, smoking cessation, avoidance of alcohol and drugs and parenting skills are made available for the woman and family (WHO, 2009). All these in place are sufficient for the pregnant woman as a form of information and education, therefore whether participants were literates or not did not matter since adequate awareness had been created. In addition to that, in African setting, especially among the Yoruba people, pregnant women are highly regarded and treated with optimum care and given preference. There is a communal responsibility of the older women to the younger women on how to take care of pregnancy. Most women are midwives themselves and this explains the reason why a pregnant woman would get help to be delivered of her child even on the roadside. If this happens, all the women around would remove their wrappers to cover the pregnant woman while she is being delivered.

Hypothesis three was also supported. Results revealed that women who have not experienced child birth (nulliparous) will attend antenatal care more than women who have given birth to at least a child (multiparous). This outcome is supported by a study by Regenstein, Marsha, Cummings and Huang (2005) who found that women with more experience with pregnancy (multiparous women) and women older than 35 years placed less importance on prenatal care. The probable reason for this is that those who had no experience of child birth are inquisitive, wanting to know and learn how to take care of themselves and their unborn babies. Abram Maslow's hierarchy of needs theory (Maslow, 1943), states that once a need is achieved it no longer motivates and individuals move on to fulfil the next stage of the need hierarchy. Pregnant women who have had experience of child birth may have also attended antenatal care during the early years of their previous pregnancies, and therefore, they may not see any need to repeat the process. Such pregnant women may rather be motivated to move on to the next stage of family planning, which will prepare them to either space their children or stop having more children.

5. Conclusion

Findings from this study revealed that the pregnant women who had more barriers did not consistently attend antenatal care, therefore, it is very important that these barriers are reduced. The results also indicated that most pregnant women who attend antenatal care are well informed about how to care for

their pregnancies, therefore whether they had formal education or not did not influence their attendance of antenatal care. Also, the younger women in age and marriage and those who were pregnant for the first time, attended antenatal care more than the older women in age, marriage and those who have had at least one child.

6. Implication and Recommendation

The implication of these findings is that pregnant women who have had experience of child delivery or who are older should be reoriented, that they should not use their previous experiences of delivery to judge or determine their present state of health in pregnancy, because, even though it is the same woman carrying the baby but each pregnancy and delivery has its own uniqueness and should be treated as such. This finding is also a challenge to health care givers especially the doctors and nurses to be patient with their clients, they should come down to the levels of their clients, so that they are not perceived as being bad by the people they are willing to help, or give care to. Pregnant women should be reoriented regarding the importance of antenatal care and treating each pregnancy uniquely from the previous experience of pregnancies they might have had.

The following recommendations were made in the light of the findings of this study. Barriers are hindrances that could affect any one to progress in achieving a goal. The goal that these pregnant women are willing to achieve is to give birth to healthy children with little or no complications. This goal is also very important to the community, society and the country at large. There are some organisations such as the World Health Organization (WHO), UNICEF, Save the Children, among others whose interest is the health of the mother and child. Although this study also recognises that previous support had been given to enlighten and educate pregnant women, nevertheless the good work should not stop. Pregnant women should be continuously reoriented on the importance of antenatal care and the essence of treating each pregnancy uniquely from previous experience of pregnancy. The health belief model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action, would determine the level of commitment in health-promoting behaviours. Therefore, the perceived benefits of attending antenatal care should be regularly emphasised while the perceived barriers be reduced.

It is also suggested that the government should provide a community based antenatal care, such that doctors and nurses would attend to pregnant women by going to their homes especially when they miss the antenatal appointments. This is similar to the importance placed on immunization programme for children which involves mobile health workers moving from house to house to make the programme a success. The same method should also apply to pregnant women and this will ensure that they take appropriate medications and vaccination during pregnancy. The community based service will also go a long way to erase the negative perception that the pregnant women might have about the doctors and nurses, since they would have sacrificed their comfort zones (the clinic) by going into homes to give care. Aside this, doctors and nurses could provide a means of an external cues to reminding their clients of their day of appointment, such as giving them calls and asking about their health. Also, health care givers such as doctors, nurses and midwives should be sensitized on how to specially take care of these pregnant women. Studies have shown that pregnant women have different nausea behaviours in pregnancy (Kitzinger, (1984) & Ryan, Milis, & Misri, (2005)) therefore health care givers should understand this by being patient with them so that these pregnant women will be able to accept their care givers and trust them as their health care givers. If the trust is there, pregnant women may desist from patronizing herbalists and traditional birth attendants who give them herbs and concoctions which may be dangerous to their health and the baby's.

7. Limitation of study

The participants for this study were recruited from public hospitals only. It is suggested that future studies should consider participants from private hospitals, maternity homes and traditional birth attendants.

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