

ANALYSIS OF FAMILY ENVIRONMENT QUALITY AND ITS INFLUENCE ON EARLY CHILDHOOD DEVELOPMENT

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Abstract

This study aimed to analyze the family environment and its influence on early childhood development in South Tangerang City. This study used a cross-sectional study design. Family environment data measured using the Family Environment Scale (FES) and early childhood development is measured using indicators of curriculum in 2010, including measurement of the four aspects of early childhood development, i.e. religious values, physical motor, cognitive, and social emotional. The data includes the characteristics of the family and the family environment examples tabulated and analyzed in 3 dimensions and 10 subscales. Different characteristics of the family environment and early childhood development by gender (sex) measured with different test Independent T-test. This study shows a correlation between the sub-scale recreations in a family environment with children's cognitive development. Sample of girls will look a correlation between family's environments with cognitive development. The correlation was also seen between the subscales recreation with the total child, language, cognitive, and physical development. Interaction among family members who are not in harmony is related as potential inhibitors of child development.

Keywords: family, gender, development, influences

1. Introduction

Current paradigm of education for early childhood has been cultivating a holistic approach. The child is seen as an individual who is intact and requires care as well. It is not only with respect to various aspects of child development, but also the handling of various parties such as the family, which is the first environment and foremost responsible for the education of children, school is a formal environment that has been structured and has a number of planned programs, and societies an outer community environment families that directly or indirectly affect the child's personal formation (Puskur, 2002).

The family has an important role in the formation of identity, as proposed by Grotevant & Cooper (in Archer, 1994) that is the essential role of the family also adds to the quality of identity formation among others, lies in the interaction of parents with their children. The family is the smallest components of society in which parents are the first and main environment for the formation of personality and child behavior. It is because since birth age, the child lives in the environment and nurtured by his parents. The patterns of attitudes, behaviors, and values embedded by parents to their children through parenting was a foundation for the further child's personality and behavior development. Segall (1990) states that *'the developmental'* has three interrelated components, namely: (1) physical context and social where children live, (2) care is determined by culture and practice - the practice of education, and (3) the parents' psychological characteristics. Moreover, Fuhrmann (1990) states, if a factor can be separated as a single factor that influence the child's development, it is obviously parent factors. Unit family factor or the family, although changed drastically as a result of technological innovation and sociological, but remains as a place to socialize.

Family as the first environment and foremost known by children, has a decisive role for children in accomplish tasks development. According to Hoffman (2004), treatment of the elderly in the care of the child's behavior will determine whether he will be pro-social individuals or antisocial. Parents as family leaders have a responsibility to educate and help to prepare children toward maturity and able to be a good member of society (Soelaeman, 1994 in Ruhidawati, 2005).

Understanding that early childhood is the golden age should be made the foundation of education for parents or teachers to provide a good stimulation for the growth and development of all the potential that is in early childhood. According to Bronfenbrenner, in the perspective of Ecology, a child is affected by the physical and social environment around him. The family as an environmental *Microsystems* that is closest to the child, will influence and shape the patterns and habits that will determine the child's development. In this environment, the child has mostly of interaction, learning, observing, affection, attention and love. Therefore, this study analyzes the extent to which the influence of family environment with various dimensions in it can affect early childhood development.

According to Salvicion, a family is two or more individuals belonging to the marriage bond, the bond of blood or adoption and living in a household, interact with one another in their respective roles and create or sustain a culture.

Parents as nanny plays a decisive role in child development. According to Hoffman (2004), treatment of the elderly in pemgasuhan will determine the child's behavior in the future.

Family environment

Family environment (*family environment*) is defined as the interaction between parents and children and other family members were measured through the perception of the child in the family. This study uses "*Family Environment Scale*" from Moos and Moos (2002), which is divided into 3 main dimensions and 10 sub-components, namely:

1. Dimensions "*Relationship*" which is an environmental evaluation of the family in terms of the relationship (*relationship*) consisting of three sub-components:
 - (i) **Cohesion (cohesion)**, which means the obligation, assistance and support among family members.
 - (ii) **Expressiveness (expression)** associated with the actions of family members to express their feelings directly
 - (iii) **Conflict (conflict)** is related to the degree to which family members openly express displeasure, anger and disapproval
2. Dimensions "*Personal Growth*" is an evaluation of a family environment in relation to personal growth and development that consists of 5 sub-components, namely:
 - (i) **Independence (freedom)** means the degree to which family members have the desire, the hope and the ability to make their own decisions
 - (ii) **Achievement Orientation (orientation for achievement)** in a family-related activity that leads to achievement or compete
 - (iii) **Intellectual-Cultural Orientation (orientation on the intellectual and cultural)** are associated with a number of activities undertaken in the activities of political, social, cultural and intellectual
 - (iv) **Active-Recreation Orientation (orientation active recreation)** associated with the level of participation in recreational activities
 - (v) **Religion Orientation moral (moral religious orientation)** associated with values, morals and religion
3. Dimensions "*System Maintenance*" associated with the maintenance system of values in a family consisting of:
 - (i) **Organization (organization)** which is the level of planning and setting obligations in the family
 - (ii) **Control (control / monitoring)** is how many rules and procedures used in family life

Early Childhood Development

Early childhood is a sensitive period for children. Children begin to receive numerous attempts sensitive development of the full potential of the child. Sensitive period is the period of the maturation of the functions of the physical and psychological ready to respond to the stimulation provided by the environment. This period is a time to lay the first foundation in developing physical abilities, cognitive, language, social, emotional, self-concept, self-discipline, independence, the art of moral and religious values. Therefore it is necessary and appropriate stimulation conditions with the needs of the child to the growth and development of children achieved optimally.

Through stimulation / stimulation, guidance, attention and affection given by parents will promote the development of behaviors and attitudes through habituation good, so it will be the main basis in accordance with the child's personal formation of values in society.

METHODS

Research Sites

This research was conducted in several kindergartens in South Tangerang and the surrounding region. The choice of location research conducted *purposive sampling* because of the ease of access and the availability of adequate data. Time data collection was conducted in March-April, 2014.

Population and Sample Research

The population in this study are all kindergartens in the region of South Tangerang, while the sample is early childhood (4-5 years) sitting in groups A that exist in some areas of South Tangerang on the basis that the child is still minimal intervention from the process learning at school so there is no bias and the influence of family environment more visible.

Measurement

Prior to the data analysis, carried out a questionnaire with a reliability test using *Cronbach's Alpha*. Lingkungan keluarga measured using the *Family Environment Scale* (FES) of Moos and Moos (2002), which consists of 40 items with 10 sub-scale questions. Then be modified after the previous test reliability. The reliability of the test results, it can be said that the instrument used to measure *reliably* the family environment with a *Cronbach Alpha* between 0.823-0.831 for each dimension. Reliability test results and questionnaire testing and research questionnaire in Annex. Early childhood development is measured using indicators from the curriculum of 2010 (Permendiknas 58). There are four aspects that are measured in early childhood development ie religious values, physical motor, cognitive and social emotional. Each of these aspects of menggunakan 5 indikator. Developmental assessment is done by using a scale of 1 to vote yet Evolving (BB), the scale of 2 to Begin Developing (MB), the scale 3 for Developing Appropriate Expectations (BSH) and scale 4 for Developing Excellent (BSB).

Processing and Data Analysis

Data were tabulated and analyzed includes data and sample family characteristics, family environment in 3 dimensions and 10 subscales, as well as early childhood development. To see the connection test was used *Pearson Correlation* and used test *Linear Regression* to look pe influence on several variables. To see the difference in the characteristics of the family environment and early childhood development based on gender (sex) seen with different test *Independent T-test*. The data processing is done by SPSS 17.0.

DISCUSSION

Family Characteristics

Family characteristics including paternal age, maternal age, father's education, mother's education, father's occupation, mother's occupation and income of the father and mother of income.

Age of Parents

The average age of fathers in this study was 38 years. The youngest age of the father is 28 years old and the oldest was 58 years of age. Ibu age is in the range 24 to 51 years, with an average age of mothers was 35 years. The average age of parents in this study included into early adulthood. According to Hurlock (2001), early adulthood ranged between 18-40 tahun. Secara biological, this period is the culmination of excellent physical growth, so it is seen as the healthiest age of the entire human population (*the healthiest people in the population*).

According Santrock (2003), young adults, including the transition period, namely the physical transition, transition intellectually, as well as the social role transition. Social development of early adulthood is the culmination of the development of social adulthood. Period early adulthood is a time shift into a self-centered view of the attitude of empathy. At this time, the determination of the relation plays an important role. Beginning early adulthood is a period in which a person begins to establish hubungan secara intimate with the opposite sex. In view of Hurlock (2001) some characteristics of adult baseline and at one point said that early adulthood is a period of adjustment to the new way of life and take advantage of the freedom gained.

One of the aspects of the development of early adulthood (Santrock, 2003), namely socio-emotional development is closely related to marriage and family life, where they step in the life cycle to establish the identity and form a new family.

According Havighurst, developmental tasks of early adulthood include: choosing a spouse, learn to live with the couple married, start a family, raise children, treat household, started working, responsible citizenship, and finding a harmonious social groups. Inside find this harmonious social groups, they are together as couples look for new friends, the people of their own age, who have the same interests and the people where they can develop a new kind of social life.

Family environment

a. Samples Total

Sample in this study amounted to 32 people consisting of 15 boys and 17 girls. The age of the samples ranged between 62 (5 years 2 months) to 74 months (6 years 2 months) with an average age of 69.25 months samples. Most of the sample (53.1%) is a subsidiary pertama. Hal This is because the majority of respondents are young families.

Family environment in this study is divided into 3 dimensions and 10 subscales. In this chapter described a family environment based sample of each sub scale is based on three categories, low, medium and high. Family environment category is said to be low if the indicator on the family environment sub-scale scores between 4 to 7, if the score is categorized as being between 8-12 and categorized as high if the score 13 - 16. It is based on a calculation interval is:

1. Dimensional relationship (*relationship*)

Dimensional relationship consists of a sub-scale cohesion, expression and conflict. Table 3 below shows the percentage of the sample is based on categories of low, medium and high.

Table 3. Dimensions relationship by category

Dimensions Relationship	Low	Moderate	Height
Cohesion	-	31.2%	68.8%
Expression	-	43.8%	56.2%
Conflict	-	56.2%	43.8%

In this study, the sample was not found to have the dimensions of the relationship (*relationship*) with the low category. Sub-scale cohesion leads to liability, assistance and support provided by a family member to other family members. In this case approximately 68.8% of families sampled had high category (good) in terms of providing assistance or support to other family members, and as many as 31.2% had moderate category.

Expression in this study illustrate the actions of family members to express their feelings directly. In this study, as many as 56.2% of families have demonstrated good category, while the remaining 43.8% indicated category sedang. Hal this means family in this study has shown that measures both in terms of expressing feelings to fellow family members.

In the case of conflict related to the degree to which family members openly express displeasure, anger and disapproval. The composition of medium and high category for sub-scale is almost the same that category was 56.2% and the remaining 43.8% for the higher categories.

Caplan (1959) in Hymovich and Chamberlin (1980) emphasizes that parents as well as children have emotional needs that must be met. All have a desire to express their feelings, have a desire to be loved, to have the desire to be noticed and pay attention to each other and have a desire to feel safe and comfortable.

2. Personal Development Dimensions

Dimensions of personal development consists of a sub-scale independence, achievement, culture, recreation and moral. Tabel 4 shows the percentage of the sample is based on categories of low, medium and high.

Table 4. Dimensions Personal Development

Personal Development Dimensions	Low	Moderate	Height
Independency	-	37.5%	62.5%
Achievement	-	56.2%	43.8%
Culture	-	81.2%	18.8%
Recreation	3.1%	93.8%	3.1%
Moral	-	18.8%	81.2%

3. Dimensions System Maintenance

Dimensions maintenance system consists of a sub-scale supervision and regulation. Table 5 shows the percentage of the sample is based on categories of low, medium and high.

Table 5. Dimensions System Maintenance

Personal Development Dimensions	Low	Moderate	Height
Supervision	3.1%	84.4%	12.5%
Settings	3.1%	75.0%	21.9%

Judging from the family environment in general, 37.5 percent of the samples in this study are in the medium category and the remaining 62.5 per cent are in the category tinggi. Hal this means that the respondents in this study had good activity in relation to the interaction between family members.

Child development

a. Level of Child Development

Development of children in this study include religious and moral development, social emotional development, language development, cognitive development and physical development of the motor.

Table 8. Percentage Level of Child Development

Aspects of Child Development	Low	Moderate	Height
Religion and Morals	3.1%	84.4%	12.5%
Social Emotional	6.2%	87.5%	6.2%
Language	6.2%	81.2%	12.5%

Cognitive	6.2%	87.5%	6.2%
Physical	-	96.9%	3.1%

Judging from the development of children in general, as much as 3.1 percent of the samples in this study are in the low category, 75.0 percent were in the moderate category and the remaining 21.9 per cent are in the higher category. This means that most of the samples in this study had a child's development in line with expectations.

b. Based on Gender Differences in Child Development

In this study found differences in the average scores in the development of boys and girls in the fifth aspect of development, namely the moral aspects of religious, social, emotional, language, cognitive and physical. However, based on independent *t-test* test found no significant difference. This can be seen in table 9 below:

Table 9. Differences in Child Development by gender

Aspect Development	The average score		Different Test Results (sign)
	Man	Female	
Religion and Morals	15:27	15:06	0777
Social Emotional	13:53	14:00	0462
Language	15.80	15:47	0703
Cognitive	14.80	14:59	0797
Physical	15.80	15:53	0561
Perk Child Total	75.20	74.65	0848

From the table above it can be seen that the average score for each aspect of the development of boys and girls show a difference, but not statistically significantly different. Similarly, the development of the total child where boys have higher scores (75.20) than girls (74.65), but not statistically different. Thus it can be said that in all aspects of child development there was no significant difference between boys and girls.

But not so if carried out further analysis of the indicators of every aspect of development. It would seem that some of the indicators differed significantly in boys and girls.

Table 10. The difference in the average score based on indicators

Table Indicators	The average score		Different Test Results (sign)
	Man	Female	
Moral religion-1	3:20	3:06	0522
Moral religion-2	3:00	2.94	0763
Moral religion-3	3:07	3:12	0763
Moral religion-4	2.87	2.88	0938
Moral religion-5	3:13	3:06	0598
Social Emotional-1	3:00	2.94	0732
Social Emotional-2	2:20	2:35	0467
Social Emotional-3	2.80	2.71	0699
Social Emotional-4	2.87	3:00	0128
Social Emotional-5	2.67	3:00	0033 **
Language-1	3:40	3:06	0081 *
Language-2	2.87	3:00	0607
Language-3	3:27	3:06	0395
Language-4	2.87	3:00	0514
Language-5	3:40	3:35	0831
Cognitive-1	3:13	3:00	0396
Cognitive-2	2.87	2.65	0365
Cognitive-3	3:00	2.94	0685
Cognitive-4	2.87	3:00	0464
Cognitive-5	2.93	3:00	0757
Physical-1	3:13	3:12	0938
Physical-2	2.73	3:00	0222
Physical-3	3:07	3:06	0.930
Physical-4	3:20	3:00	0231
Physical-5	3.67	3:35	0081 *

From table 10 it can be seen that there are three indicators of the development of children who show significant differences between boys and girls. The difference can be seen in the social indicators of emotional 5. In this case means girls (which have an average score higher, at 3 o'clock) more wait in turn compared with boys (who had an average score lower, ie 2.67).

In his research, Davaney, O'Brien, Tavegia and Resnik (2005) suggest pentingnyaupaya in developing the social and emotional competence of children through five pembelajaranansial and emotional (*five learing social and emotional competency*), which is an effort bersamadi school, at home and in tutions child development agency to help children usiamuda have an awareness of self (*self-awareness*) that will mampumengenali emotions and values well as the strengths and limitations; sadartherhadap others (*social awareness*) so as to demonstrate understanding and empatiterhadap others; have a good relationship skill (*relationship skills*) sehingggaakan able to build positive relationships, work in teams, and overcoming masalahdengan effective; making responsible decisions (*Responsible decision making*) to create constructive and ethical choices about personal and social behavior; and is able to manage themselves (*self-management*) so as to arrange their emotions and behavior to achieve one goal.

Davaney et al. (2005) mentions that competency will eventually produce children who are able to achieve balance in keterampilanyang they need to live an ethical and responsible (*to live ethically and Responsibly*).

Significant differences were also seen in the indicator Language 1 where it means the boy (who had an average score higher, at 3:40) is able to perform simple commands than girls (who had an average score lower, 3:06).Furthermore, a significant difference was also seen in Physical indicator 5 where boys more have the ability to walk on the plank than girls.

Relationship of Family Environment and Child Development

a. Samples Total

Table 11. Correlation Coefficient Environment Family and Child Development for the total sample

Indicator	Religion and Morals	Emotional Social	Language	Cognitive	Physical	Children (total)
Cohesion	-0006	-0029	-0140	0234	0194	0036
Expression	-0038	-0063	-0153	0021	-0136	-0076
Conflict	-0158	-0087	-0066	0078	0106	-0060
Independency	-0112	0046	-0014	0068	-0255	-0034
Achievement	0088	0099	0.040	0061	-0232	0058
Culture	-0003	0000	-0039	0235	0344	0085
Recreation	-0023	-0026	0022	0357	0337	0121
Moral	-0190	-0233	-0326	-0031	-0003	-0216
Supervision	0112	-0096	0074	0171	-0195	0057
Settings	-0143	-0291	-0316	-0018	-0251	-0234
Environ Klrg (total)	-0086	-0110	-0155	0271	0005	-0023

From Table 11, it can be seen the relationship child's family environment and the development of the overall sample were analyzed using *Pearson* Correlation. In the overall sample seen significant positive adahubungan between sub-scale recreation and cognitive development of children. This means that the opportunity provided by the family (parents) are associated with the level of participation in rekreasisangat activities closely related to cognitive development of children. As a sample, the family often spend time together either at the weekend or at night giving children the opportunity to discuss and recounts to family members lainnya.Begitu also sports activities or go somewhere for recreation such as cinema or other recreation places providing opportunities for children to develop their cognitive potential.

A functional family can basically memberikankesempatan to all family members confide to each other, communicate with each other and talk to each other openly. In addition, a functional family also has a bond that is warm and has a mutual support to each other. In a study conducted by Walker and Taylor (in Shaffer, 1994) indicated that a child who has the moral development that grow higher than the other is a child who has a parent where the parent encourages the child in a way that is warm and *supportive* in through the process of moral development of the child. The efforts of parents in encouraging the child is done through processes of moral discussion whichis done in a variety of patterns and styles (Walker and Taylor in Shaffer, 1994).

Family environment in this study was measured by using the *Family Environment Scale* which is defined as the interaction between parents and children and other family members. Interaksi among members of this family became one of the important aspects that can affect individual behavior. Harmonious interaction among members of the family will affect children's development, both in terms of moral development, language, cognitive, physical, motor and social emotional development of children in the family.

Gardner (1983) referenced in Ali (2009), through the research found that the interaction between members of the family who are not in harmony is a potential correlate become an obstacle to the development of children. In theory *Social Learning*, Bandura explains that a stimulus is perceived by the individual, and then interpreted based cognitive structure owned. If appropriate, the stimulus and then internalized and formed sikap. Sikap strongly is what gives weight to an individual's behavior. Bandura's theory is valid also for the child to life in a family, which then influence the development of social (Ali 2009).

In understanding the influence of family against family members, including children, the family should be seen as a system. This means parents do not easily form anak. Sekecil any element in the family can affect other elements. The need for psychological in individuals can be met with adequate support of the environment in the form of a warm relationship, rules and restrictions, support for independence, support for the achievement and positive role models (Kalil 2003).

Factors family environment as indicated by an association or a good interaction among members, support for independent attitude, intellectual, achievement, cultivation of moral and religious values as well as the implementation and monitoring of the rules applicable in the family, no doubt play an important role resiliesi in the formation of adolescents. These factors would be a protective factor or factors that can protect individuals from the negative effects that may arise from the surrounding environment. Family environment to be one protective factor because the family is the first and foremost that the environment would affect a child's development. Climate healthy family life will produce healthy children as well, both physically and mentally. According Gunarsa and Gunarsa (1995), whether or not the climate healthy family life much depends on whether or not a harmonious relationship between family members.

5. CONCLUSION

This study shows a correlation between sub-scale recreations in a family environment with a child's cognitive development. This means more and better sub-scale recreation (such as spending time together, giving children the opportunity to discuss, related her experience to other family members, exercise or go somewhere for recreation such as cinema or others), the better Similarly cognitive development of children.

When analyzed by gender, then the sample of women will look for a correlation between family environments with cognitive development. Correlation was also seen between sub-scale rekreasi the total child development, language development, cognitive development and physical development. This means more and better family environment will be better the cognitive development of children.

Penelitian these men march out that interactions among members of the family who are not in harmony is a correlate potentially become an obstacle to the development of children. In theory *Social Learning*, Albert Bandura explains that a stimulus is perceived by the individual, and then interpreted based cognitive structure owned. If appropriate, stimulus are then internalized and forming attitudes. It is this attitude that strongly give weight to an individual's behavior

Limitations of this study observed only early childhood (4-5 years) will require further research with more diverse age levels. besides limitation of this study also has the disadvantage that the type of the sample schools and socioeconomic levels are taken is homogeneous ie secondary school down and parents whose lower-middle income, based on this it is advisable to further researchers to conduct research on a sample of schools are more diverse and socio-economic level of parents is more diverse. For researchers needed further study more in-depth about the family environment by gender so didap a tkan in-depth information about the development of boys and girls. For parents, it is necessary to give attention, guidance and support more leverage so that children can thrive.

6. REFERENCES

- Ali M., Asrori, M. 2009. *The Psychology of Adolescents*. Jakarta: Earth Script.
- Carter, US, Briggs-Gowman, MJ, & Ornstein, N. (2004). *Assessment of young children's social -emotional development and psychopathology: recent advances and recommendations for practice*. *Journal of Child Psychology and Psychiatry*, 45 (1), 109

Gunarsa, S. 1995. *Psychological Practical: Children Juvenile and Family*. Jakarta: BPK Gunung Noble

Hymovich DP and Chamberlin RW 1980. *Child and Family Development: Implications for Primary Health Care*. McGraw-Hill Book Company

Kalil A. 2003. *Family Resilience and Good Child Outcomes. A Review of a Literature*. Wellington: Centre for Social Research and Evaluation.

Sari, AVS Hubeis, Mangkuprawira S., and A. Saleh. 2010. *Influence Pattern Communication Family in Function Socialization Family to Development Children*. *Journals Communication Development*. ISSN 1693-3699. Vol.08, No. 2

Shaffer, DR 1994. *Third Edition: Social and Personality Development*. California: Brooks / Cole Publishing Company.

Simsek, Z., Erol, N., Östop, D., & Özcan, Ö. Ö. (2008). *Epidemiology of emotional and behavioral problems in children and adolescents reared in orphanages: A national comparative study*. *Turkish Journal of Psychiatry*, 19 (3), 2-13

Sodikin1, Mustiah Yulistiani2, Asiandi3. *Effect of Characteristics of Children, Presence of Parents and Parenting Parents on Social, Emotional and Moral At the age of Towns and Villages Regional School in Banyumas*.

Taylor and J. 1997. *Early Childhood Program Management*. New Jersey: Prentice Hall, Inc.

Qudsyi H., U. Gusniarti. *Relationship Between the functioning of the Family with Moral Reasoning in Children Age Late (Late Childhood)*

http://psychology.uui.ac.id/images/stories/jadwal_kuliah/naskah-publikasi-03320132.pdf accessed on October 10, 2014.

<http://www.citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.121>, accessed on November 23, 2014.

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Program

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2015 TISS Program will be announced in October, 2015


Draft Schedule


Presentation time slot for each author should be based on program that released in October.

Wednesday, Dec. 2nd, 2015
Executive Committee Meeting

Tuesday, Dec. 3rd, 2015				
Oral Presentation				
	Room 1	Room 2	Room 3	Room 4
08:30-17:00	Registration			
09:00-10:30	Session	Session	Session	Session
10:30-10:45	Tea Break			
10:45-12:15	Keynote Speech	Session	Session	Session
12:15-13:30	Lunch Time			
13:30-15:00	Keynote Speech	Session	Session	Session
15:00-15:15	Tea Break			
15:15-16:45	Session	Session	Session	Session
Poster Presentation				
10:00-11:00	Poster Session (1)			
14:30-15:30	Poster Session (2)			

Friday, Dec. 4th, 2015				
Oral Presentation				
	Room 1	Room 2	Room 3	Room 4
08:30-17:00	Registration			
09:00-10:30	Session	Session	Session	Session
10:30-10:45	Tea Break			
10:45-12:15	Session	Session	Session	Session
12:15-13:30	Lunch Time			
13:30-15:00	Session	Session	Session	Session
15:00-15:15	Tea Break			
15:15-16:45	Session	Session	Session	Session
Poster Presentation				
10:00-11:00	Poster Session (3)			
14:30-15:30	Poster Session (4)			

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