



## RESEARCH ARTICLE

## Development of Behavior Models of Pregnant Women towards High Risk Pregnancy Conditions based on Social and Culture Capital

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### Abstract

**Introduction:** A person behavior in acting is influenced by social and cultural aspects. Someone has a wide stretch throughout the activities carried out namely: walking, working, thinking and another. **Aim:** To analyze the effect of social capital and culture capital on behavior, prove the model of social capital and culture capital on improving the behavior of high-risk pregnant women. **Methods:** The study was conducted in 2 stages: First, using a cross sectional design, the population of pregnant women in the Surabaya City Health Service area. Sample size was calculated by the ROT formula, a number of 314 respondents. The sampling technique used non-probability sampling. The data were analyzed using PLS. Second stage, tests the model obtained. **Results:** Social capital affects behavior in the regularity of antenatal care, the accuracy of taking drugs or vitamins, diet, monitoring of fetal movements ( $T > 1.97$ ), but in the pattern of activity ( $T < 1.97$ ), while culture capital does not affect the regularity of inquiry pregnancy, the accuracy of taking drugs or vitamins ( $T < 1.97$ ), diet ( $T > 1.97$ ), monitoring of fetal movements ( $T < 1.97$ ), but on activity patterns ( $T > 1.97$ ). **Conclusion:** Behavior is influenced by social and culture capital and behavior models based on social and culture capital can improve the behavior of high risk pregnant women. **Recommendation:** Efforts should be made to apply behavior models based on social and culture capital to improve the behavior of high-risk pregnant women.

**Keywords:** *Social capital, Culture capital, Behavior.*

### Introduction

Humans as a living creature have a wide range of activities carried out, among others: walking, talking, working, writing, reading, thinking and another. In brief, human activities are grouped into observable and non-observable activities [1]. Someone's behavior in acting is influenced by social aspects (social capital) and culture (culture capital). In the social aspect, a person's behavior will rely on participation, proactivity, partnership, and reciprocity.

While from the cultural aspect, a person's behavior will rely on power distance, power avoidance, individualism, masculinity, and time orientation. Both of these aspects can be influenced in short term and long term [1]. Research conducted by Naseri found that culture capital influences student behavior in learning. The study also involved risk behaviors towards health in Iran [2].

Based on background, researchers wanted to know the social capital and culture capital models of high-risk pregnant women.

The aim of this study is:

- Analyzing the effect of social capital (structural, relational, cognitive) on the regularity of antenatal care, taking drugs or vitamins, eating patterns, monitoring fetal movements, and patterns of activity of high-risk pregnant women.
- Analyzing the influence of culture capital (power distance, power avoidance, individualism, masculinity, and time orientation) on the regularity of antenatal care, taking drugs or vitamins, eating patterns, monitoring fetal movements, and patterns of activities of high-risk pregnant women.

- Analyzing social capital and culture capital model can be effected on improving behavior towards the practice of high-risk pregnant women.

**Methods**

The study was conducted in 2 stages. First, using a cross sectional design, the population of pregnant women in the Surabaya City Health Service area. The sample used a portion of pregnant women who met the inclusion and exclusion criteria. Inclusion criteria in this study include: Pregnant women who have a MCH book and their data are noted completely, have done antenatal visits at least twice, available to be respondents by signing the respondent's consent sheet. The sample size for this study used the rule of the thumb formula. The

parameters in this study were 52 parameters that have 314 respondents. The sampling technique used non-probability sampling. The independent variables were social capital and culture capital, then the dependent variable was the behavior of high-risk pregnant women. The processing and data analyzing used Partial Least Square (PLS), the next step was Focus Group Discussion. Second stage used quasi experiment design, the size samples of this study there were 30 respondents. Processing and data analyzing used Chi-square

**Results**

The results of this study are illustrated in the analysis of the measurement model below:

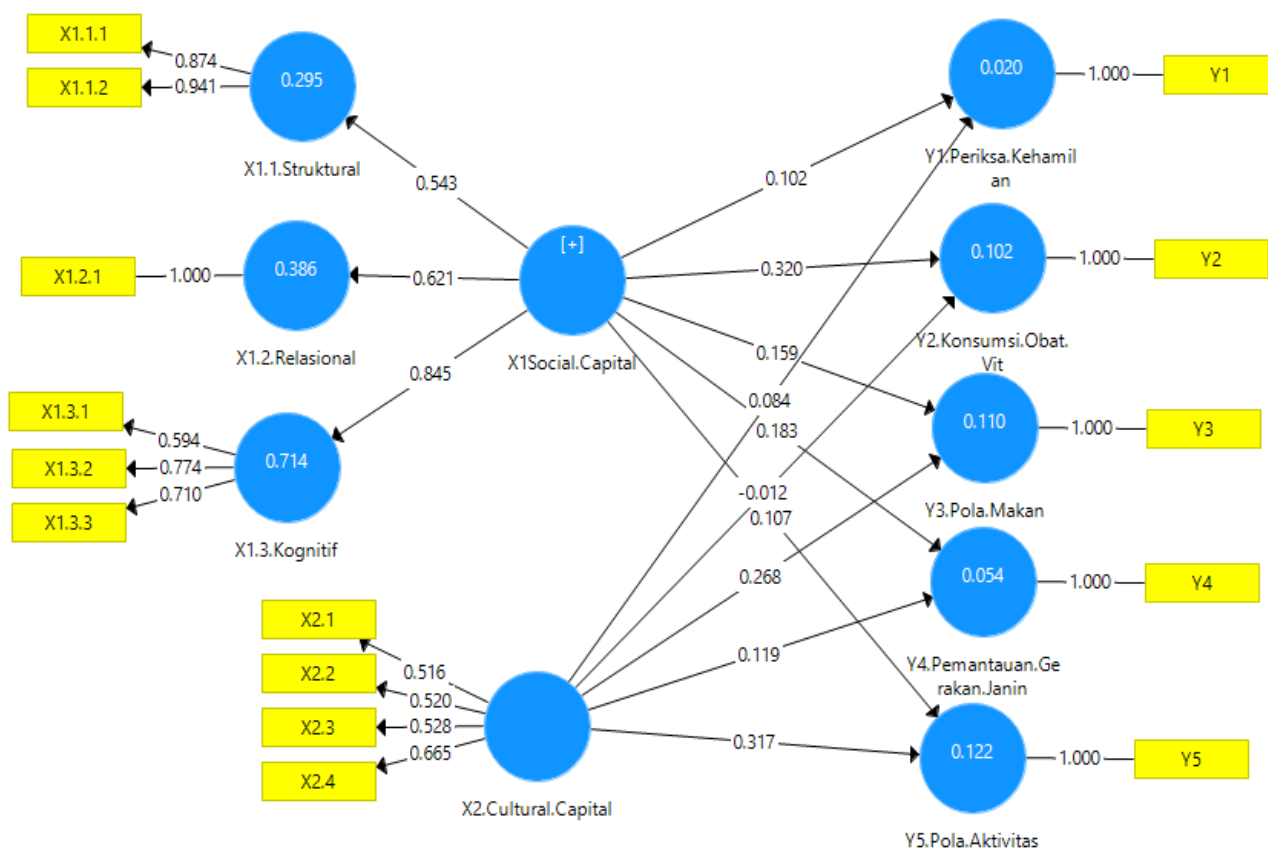


Figure 1: Outer Research Model

Convergent construct validity test results in this study are in the table below:

Table 1: Convergent Validity Test Results Construct

No	Latent Variable	Indicator	Dimension	Loading Factor	Evidence
1	Social Capital (X1)	X1.1 Structural	X1.1.1 Network Ties	0.874	Valid
			X1.1.2 Network Configuration	0.941	Valid
		X1.2 Relational	X1.2.1 Dimension Ratio	1.000	Valid
		X1.3 Cognitive	X1.3.1 Common	0.594	Valid

			Languages		
			X1.3.2 Sharing of Story	0.774	Valid
			X1.3.3 Vission	0.710	Valid
2	Cultural Capital (X2)	X2.1 Distance of Power (Resources)		0.516	Valid
		X2.2 Avoidance of Power (Trust in Long-Term Benefits)		0.520	Valid
		X2.3 Individualism (Influence of Others)		0.528	Valid
		X2.4 Masculinity (Independence)		0.665	Valid
3	Behavior of Pregnant Women (Y1)	Y1.1 Regularity of Pregnancy Checks		1.000	Valid
		Y1.2 Accuracy in Taking Medicines / Vitamins		1.000	Valid
		Y1.3 Diet of Pregnant Women		1.000	Valid
		Y1.4 Monitoring Fetal Movement		1.000	Valid
		Y1.5 Activity Pattern		1.000	Valid

**Table2: Constructive Reliability Test Results Construct**

Variable	AVE	Evidence
X1. Social Capital	0.729	Reliable
X1.1. Structural	0.904	Reliable
X1.2. Relational	1.000	Reliable
X1.3. Cognitive	0.736	Reliable
X2. Cultural Capital	0.644	Reliable
Y1.1.Regularity of Pregnancy Checks	1.000	Reliable
Y1.2.Accuracy in Taking Medicines/ Vitamins	1.000	Reliable
Y1.3.Diet of Pregnant Women	1.000	Reliable
Y1.4.Monitoring Fetal Movement	1.000	Reliable
Y1.5.Activity Pattern	1.000	Reliable

Table 2 that presents the results of the construct reliability convergence for the research variables, all variables have AVE value > 0.6 so that they are declared reliable. In the analysis of structural models had done examination the influence of exogenous factors to endogenous factors. The results of the significance test are explained in the following table

**Table 3: The Result of T-Test and Path Coefficient Values in the Initial Structural Model**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Evidence
X1Social.Capital -> Y1. Check. Pregnancy	0.102	0.103	0.049	2.090	0.037	Significant
X1Social.Capital -> Y2.Consumption Drug/Vit	0.320	0.320	0.059	5.409	0.000	Significant
X1Social.Capital -> Y3. Diet	0.159	0.161	0.054	2.941	0.003	Significant
X1Social.Capital -> Y4.Monitoring Fetal Movement	0.183	0.184	0.060	3.068	0.002	Significant
X1Social.Capital -> Y5.Activity Pattern	0.107	0.114	0.063	1.692	0.091	Not Significant
X2.Cultural.Capital -> Y1. Check. Pregnancy	0.084	0.086	0.119	0.707	0.480	Not Significant
X2.Cultural.Capital -> Y2. Consumption Drug/Vit	-0.012	-0.004	0.116	0.107	0.915	Not Significant

X2.Cultural.Capital -> Y3.Diet	0.268	0.286	0.064	4.225	0.000	Significant
X2.Cultural.Capital ->Y4.Monitoring Fetal Movement	0.119	0.133	0.083	1.426	0.155	Not Significant
X2.Cultural.Capital -> Y5.Activity Pattern	0.317	0.334	0.119	2.655	0.008	Significant

Based on the table 3, it is known that each exogenous variable significantly influences endogenous variables, except social capital variables on activity patterns, cultural capital on pregnancy check, cultural capital on the regularity of consuming drugs and

vitamins, and cultural capital on monitoring fetal movements. Furthermore, the insignificant relations above were removed. So that the final model that is formed with the new T-statistics is generated, the complete explanation is in the following figure.

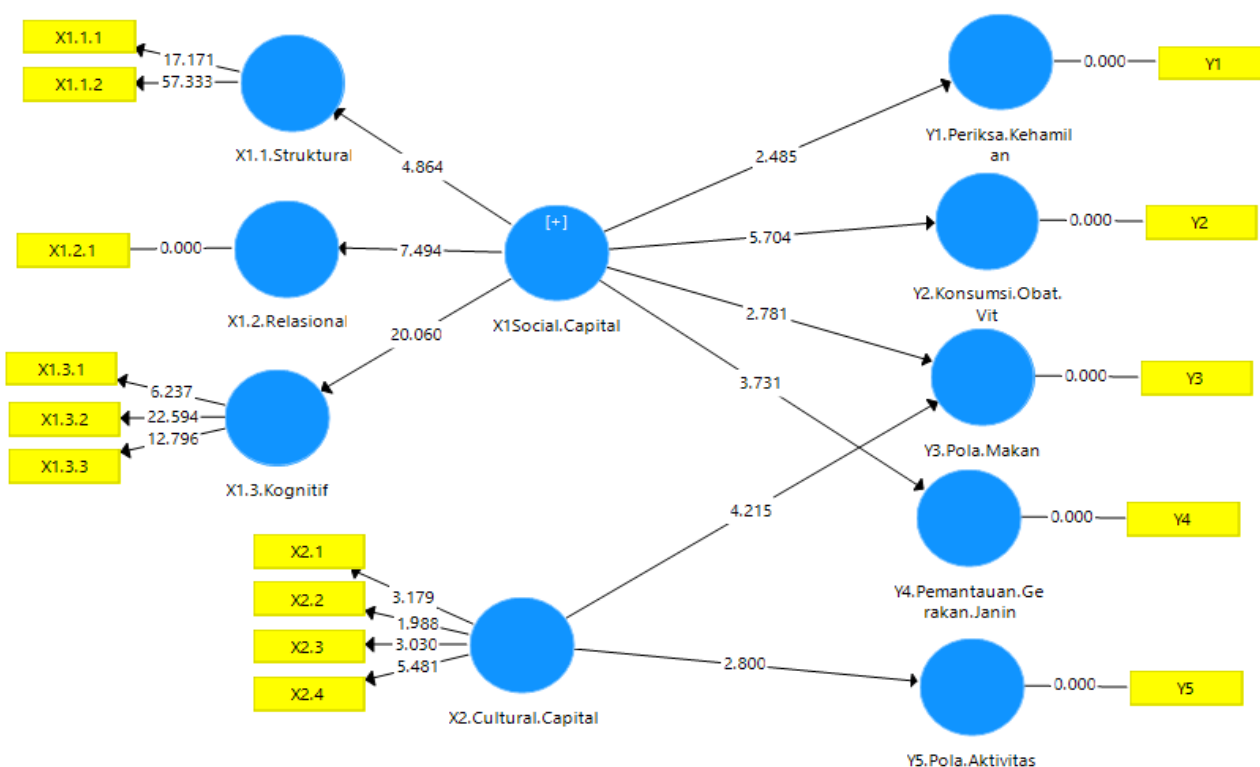


Figure 2: Inner Research Model

These are the recommended focus group discussion results:

- Efforts should be made to empower the society, especially related to for pregnant women
- Empowerment also increases awareness of all aspects of the behavior of pregnant women
- Concern will increase good cooperation between the people
- Efforts should be made to provide an understanding of pregnancy, especially high risk for all parties in the society
- The need for socialization and sharing of roles to look after pregnant women
- The need for counseling in the society about the forms of care that must be carried out by all parties towards pregnant women
- Health centers and or midwives explain in detail the existence of pregnant women, their conditions and needs
- At each counseling socialize with language that is understood
- All participants understand the language in the MCH book

- It is necessary to activate the class of pregnant women for sharing media
- The class of pregnant women involves the parties concerned
- Need to be socialized resource that can be accessed for information about the behavior of pregnant women in maintaining high risk pregnancies
- Upgrade network for access information
- The benefit of counseling for maintain long-term high risk pregnancy behavior
- It is necessary to counsel the mother's obligation to provide understanding of maintaining high risk pregnancy behavior
- It needs integrated education about the importance of maintaining high risk pregnancy behavior
- Need to increase community activities such as PKK, dasawismaetc.
- The schedule of community activities should be carried out in accordance with the activities of citizens
- Necessary efforts to increase self-reliance, especially in deciding the behavior of maintaining high-risk pregnancies that do not depend on the husband, parents, families and others
- Efforts should be made to increase knowledge and behavior about maintaining high risk pregnancies that begin early in pregnancy
- Emphasis is needed in ASI counseling about long-term benefits
- Need counseling about things that might be experienced and how to overcome

**Table 4: Differences in Behavior of Pregnant Women in the Treatment and Control Groups**

Variable	Pre		Diff. Mean	P-Value	Post		Diff. Mean	P-Value
	Control Mean± SD	Mean Treatment ±SD			Control Mean± SD	Mean Treatment ±SD		
Check Pregnancy	2,93±0,799	3,00±0,535	0,07	0,763	3,07±0,884	3,80±0,414	0,73	0,013
Consumption Drug& Vit.	2,87±0,640	3,00±0,378	0,13	0,454	3,00±0,535	3,67±0,617	0,67	0,003
Diet	2,80±0,676	2,93±0,704	0,13	0,598	2,87±0,834	3,73±0,594	0,86	0,004
Monitoring Fetal Mov.	2,93±0,799	2,87±0,743	0,06	0,824	3,07±0,884	3,80±0,414	0,73	0,013
Activity Pattern	3,20±0,676	3,33±0,617	0,13	0,594	3,27±0,704	3,93±0,258	0,66	0,002

Based on the table obtained after testing differences in behavior of pregnant women in the control and treatment group using mannwhitney, it is found that for the data on pre (before treatment) has a value of  $siq > 0.05$  on all variables, which means there is no difference between control and treatment in pre test. Whereas in the post group (after treatment) the results obtained  $siq < 0.05$  on all variables, which means there are difference between control and treatment in the post test

## Discussion

Social capital is measured through structural dimensions which are divided into 3 namely network ties, network configuration and the organizations involved. Network ties between the parties that support behaviors of pregnant women has been well established, the relation between pregnant women with health centers, midwives, volunteers, societies leaders. The role of external parties is very influential on the behavior of

pregnant women, especially related to the regularity of antenatal care, the pregnant women felt supported from many parties. Research conducted by Heba et al. Obtained results about the experiences, needs, and character of mothers which increased maternal visits in ante natal care visits. The results of research related to Akowuah et al. Produced a check also related to socio-economics. Other studies have found that higher education affects pregnant women in carrying out pregnancy examinations [3].The

existence of groups with similar needs, for example Posyandu, the class of pregnant women greatly influences the decision of pregnant women to check their pregnancies regularly. Regular visits of pregnant women at health care facilities are achieved on target. The existence of regular pregnancy examinations is a medium for officers to deliver counseling related to increase good behavior in maintaining pregnancy especially pregnant women who have a high risk.

Research conducted by Ubong et al found that in an effort to effectively control anemia in pregnancy, it must involve reorientation of obstetric service providers, especially regarding treatment and counseling that is done prenatally and postnatally [4]. The existence of organized and active media associations is an excellent tool to provide counseling about pregnant women's behavior, especially the understanding of pregnant women to regularly consume drugs or vitamins. The regularity of consuming this drug can suppress early on the existence of anemia, IUGR and others so that complications can also be suppressed properly.

If these complications can be reduced, the social and economic values faced by society will improve. Some complications that can be suppressed by the regularity of taking medication or vitamins are postpartum hemorrhage, anemia, prematurity, stunting, IUGR, IUFD, fetal distress, various congenital diseases in infants, prolonged parturition and parturition. Research by Hora et al found that eating patterns in pregnant women are formed by health workers and they provide applications that can be accessed easily and wherever they are.

The existence of a special application for eating patterns is very helpful to the community, they know the nutritional needs so that they do not have to come often to ask health workers to just know which foods are allowed or which should be avoided [5]. This study found that the existence of strong network ties or relation between communities, between the head of the health centers, midwives, health cadres, husbands and families who have the same vision to maintain the health of pregnant women through maintaining a healthy diet can be realized.

Surabaya citizens already have good care, active, and have the same vision and language in maintaining healthy diet for pregnant women. Posyandu and classes of pregnant women have been able to actively influence diet of pregnant women. More value that Surabaya is a city with healthy food ingredients that are easily and cheaply, both processed through self-cooking or directly buying processed foods. Geographically from Surabaya as a big city and has a beach that provides vegetables and bunches directly from the sea, can easily be accessed by the public. Society empowerment related to providing healthy food for pregnant women is also available.

And what is important again is that the community has actively had a group of fellow pregnant women who are monitored by midwives, in this media, pregnant women change over opinions, share information about diets. Research conducted by Esra et al states that monitoring fetal movements can have an influence on the level of attachment to the relationship between mother and baby when outside the womb, so that it is always sought for pregnant women to establish closeness between the mother and fetus starting during pregnancy.

Calculating fetal movements can lead to timely assessment of fetal health and prevent the adverse effects of pregnancy, early action can be taken in pathological cases if it is able to be diagnosed early by monitoring fetal movements [6]. People in Surabaya already have good health behavior, especially in monitoring fetal movements. Support systems from various parties, namely the head of health centers, midwives, husbands, families, cadres to always monitor fetal movements carried out properly.

The ante natal class has provided a good understanding of knowledge and techniques for monitoring fetal movements. Sharing experiences with a shared vision that has been able to shape the behavior of pregnant women in monitoring fetal movements. Antenatal classes are also active to continuously monitor the activities of pregnant women research conducted by Lee et al states that health care providers should encourage pregnant women to use strategies that promote their more regular participation in enjoyable physical activities.

One of these potential strategies is to do joint activities with children, family members, or friends [7]. This study found that it turns out that the pattern of activity was not formed from social capital, namely the attachment of pregnant women to other parties and the frequent gathering of peers. Activity patterns are also not formed from the cognitive dimension of sharing information and a shared vision of the importance of activity patterns. Analysis of this study found that physical activity or training in pregnant women was not formed from social capital but was formed from within or other aspects. Community behavior is related to activity patterns formed by factors outside social.

The research of Joni et al. Found that the role of culture greatly influenced a person to conduct ante-natal visits, including the advice of elders in the community which included when to control, where to control and choose the place of delivery [8]. This study found that the regularity of antenatal care was not influenced by culture capital.

The regularity of a pregnancy check is not formed by resources in the community that means the frequency of pregnant women is formed by factors outside of culture capital. The belief that the long-term effect on the benefits of antenatal care does not provide evidence of its role. Surabaya society has high individualism and high independence which precisely this gives a good influence in their regular pregnancy control.

The regularity of antenatal care is influenced by social capital but is not influenced by culture capital. Pregnancy checks are influenced by social and environmental factors but are not influenced by culture in pregnant women. Research conducted by Ubong et al found that in an effort to effectively control anemia in pregnancy, it must involve reorientation of obstetric service providers, especially regarding treatment and counseling that is done prenatally and postnatally [4].

This study found that the accuracy of pregnant women consuming drugs or vitamins was not influenced by culture capital. Existing sources of information do not affect the regularity of pregnant women in consuming, trust in the long-term benefits of positive effects when taking medication does not shape the behavior of pregnant

women, independence factors do not have an impact on pregnant women. The behavior of pregnant women regarding compliance with taking drugs and vitamins is actually influenced by factors social capital. The existence of a good network ties, positive relation in the society and organizations involved that are appropriate have a positive influence on the regularity of pregnant women in taking drugs or vitamins.

Besides the relational and cognitive dimensions also significantly influence the behavior of pregnant women in consuming drugs or vitamins. Research conducted by Joice provides a recommendation that not all pregnant women understand the nutritional needs during pregnancy, the results of this study recommend that the need for health promotion and education related to diet during pregnancy.

Society only understands that the need to eat more pregnant women, but the macro and micronutrient substances do not understand well [9]. This study found that there was a good source of information about diet that did not affect pregnant women in eating behavior. Society believes that a good diet can provide long-term benefits for the quality of the fetus it contains. The role of others does not dominate to participate in shaping behavior, especially related to diet.

The society has a good independence in shaping their diets, besides that the influence of fellow pregnant friends has given a good correlation, antenatal classes or other similar societies are able to form positive behaviors. Diet is formed by social factors but not from cultural capital factors. Diets are formed from the external factors of the mother, the role in pregnant women especially culture gives no significant correlation.

Masoumeh's research on similar variables found that one way to reduce depression during the saline period was to teach counting and assessing fetal movements that began in the second trimester, this number significantly affected maternal depression during post partum.

Other studies mention that only a few pregnant women report frequent monitoring of fetal movements. Some of them do not understand the techniques and long-term benefits of monitoring fetal movements [10].

This study found that pregnant women's behavior in particular related to behavior to monitor fetal movements regularly was not formed and influenced by culture capital, but was influenced by social capital.

Information about the importance of regularly monitoring fetal movements and the benefits of these activities is not enough to shape maternal behavior. People do not have long-term trust that will be felt by monitoring fetal movements regularly; they are more priority to activities that will provide benefits in the short term.

The behavior of monitoring fetal movements is actually influenced by social capital. The role of the environment becomes the dominating form of behavior. There is a relation of attachment with others, a sense of sharing, sharing stories with language that they understand actually gives a good influence for mothers to carry out activities in monitoring fetal movements.

Research conducted by Anne said that to form the behavior of pregnant women in particular the pattern of activities required social networks. The role of the environment and peers to have the same task will be very important. Thus social support must be active [11]. This study found that the activity patterns were formed or influenced by culture capital. The role of information sources, public figures that provide information to transfer the importance of maintaining patterns of activity during pregnancy, especially pregnant women with high risk.

The society already has a belief about the long-term benefits of activity patterns on their effects on pregnancy, especially high risk pregnancies. The effect of independence and consistency of time that has been owned by pregnant women is able to shape the behavior of pregnant women, especially related to the pattern of activity.

The existence of classes for pregnant women or Posyandu has been carried out periodically with the benefits of the formation of good behavior, especially in the pattern of activities. The behavior model manifested in this research is significantly able to increase social sensitivity and indirectly increase community empowerment, increase shared responsibility, and increase social interaction in society.

Pregnant women are no longer the duty and responsibility of midwives and families, but rather a social responsibility that is starting from midwives, health workers, cadres and community leaders.

## Conclusion

- Social capital able to give effect behavior of pregnant women at high risk, especially regularity of antenatal care, the accuracy consumption drug or vitamin, diet, monitoring fetal movement but not in the pattern of activity pregnancy.
- The behavior of high risk pregnant women's, especially related to the regularity of antenatal care, the accuracy of taking drugs or vitamins, monitoring fetal movements do not depend on culture capital but affect diet and activity.
- Increased of behaviors high risk pregnant women can be developed with the application from society capital models.

## Suggestion

- Increasing public awareness starting from health centers staff, midwives, cadres, husbands, families, community leaders regarding the presence of pregnant women in relation to healthy maternal behavior.
- Improve classes of pregnant women and actively monitor their activities by involving influential parties.
- Improving the structural dimensions, relational organized, high cognitive, adequate resources, confidence in the long-term benefits are good, the influence of others dominant, masculine or independence is strong, and the orientation of the time or consistency of behavior is good for supporting behavior pregnant women.

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