



A Replicate of Marshmallow Experiment on Self-Control Among Primary School Pupils In Agbowo Ibadan, Oyo State.

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Abstract

It has been discovered that having poor self-control as a youngster foretells disastrous adult outcomes that increase societal expenditures for things like health care, financial reliance, and crime. Hence, the marshmallow experiment on self-control among Agbowo Ibadan primary school students is replicated in this study. An experimental design was used in the study, which included 28 participants with a mean age of 7.3 and a standard deviation of 0.95. In this study, 28 volunteers were enlisted. Simple random selection was used to choose the participants, and they were then assigned at random to the test room. Each subject was placed in a classroom by the researcher, who also placed a wafer biscuit in front of them to represent marshmallows. The researcher then instructed the participants to wait for 20 minutes before eating the biscuit. They would be rewarded with a second biscuit if they gave in to the temptation. To see if the individual would wait or not, the researcher purposefully waited for 20 minutes. Three hypotheses were tested in this study; the result revealed that there is a joint influence of age and gender on self-control ($R^2 = 0.308$, $F(4, 27) = 5.559$, $p < .05$), independently gender is not significant ($\beta = .036$, $t = .217$, $p > .05$) but independently age is significant ($\beta = .555$, $t = 3.334$, $p < .05$). Result obtained showed Age has influence on self-control among primary pupils. Hence, as self-control affects every aspect of life, parents should teach their children this skill earlier on in the developmental process so that they can have successful futures.

Keywords: Age, Gender, Self-control and Marshmallow

Introduction

Self-control is a crucial component of long-term mental and physical health. Early self-control predicts a variety of later outcomes, such as income and financial security, physical and mental health, substance abuse, and social success (Moffitt et al., 2011).

Individual variations in the capacity to postpone gratification and to concentrate on results in the future are two aspects of one's ability to exercise self-control (Bembenutty & Karabenick, 2004; Fujita & Carnevale, 2012; Milfont & Schwarzenthal, 2014). Delay of gratification is caused by self-control, according to a recent longitudinal study (Duckworth, Tsukayama & Kirby, 2013). According to Aristotle, people who control their desires do so because their own are weak enough to do so. In order to function effectively in the environment, self-control is a necessary skill for achieving objectives, succeeding in all endeavours, and thwarting selfish and potentially harmful urges. One must develop self-control in the face of frequent temptations and cravings. According to Baumeister et al. (2007), self-control is the ability to change or override one's responses in order to achieve future goals and bring them into compliance with social and moral standards. Self-control is crucial for maintaining social cohesion. Early self-control issues have been linked to severe adult outcomes like substance abuse, criminal records, and poor mental and physical health, all of which increase societal expenditures for health care, financial reliance, and criminality (Moffitt et al., 2011).

Moreover, self-control plays a role in the regulation of emotions and is crucial for suppressing emotional reactions that could be inappropriate in a given circumstance (for instance, managing anxiousness by taking deep breaths to calm oneself down; Tice & Bratslavsky, 2000). And yet, we frequently fail to align our behaviour with our objectives, with attempts at self-control like stopping smoking and decreasing weight frequently failing (Prochaska, DiClemente, & Norcross 1992). When this finite resource is exhausted, a person's ability to further exercise self-control is weakened. Baumeister and colleagues have conceptualised self-regulation as a limited impulse-controlling resource that, like a muscle, gets fatigued and worn out after repeated acts of self-control (Muraven & Baumeister 2000, Baumeister, et al 2007). Examining behaviour

on activities like delaying gratification might help determine how much one's ability to regulate oneself is diminishing.

Delay of Gratification

In delaying immediate gratification in favour of greater future rewards, a person engages in delay of gratification tasks. Being able to successfully postpone satisfaction relates to one's preference for bigger, later rewards over smaller, more immediate pleasures (Mischel, 1974, 1996). Children were given the option to consume a tiny bit of a reward immediately or to wait 15 minutes without giving in and obtain a second treat in the traditional delay of gratification test, often known as the marshmallow task (Mischel, Ebbesen & Zeiss, 1972). Performance on this activity was discovered to predict success many years later, even though it was initially intended to measure when children's capacity for delaying pleasure evolved (Shoda, Mischel & Peake, 1990). Recently, it was shown that the mechanism behind this capacity to postpone satisfaction in certain tasks is active self-control (Duckworth et al., 2013).

A recent self-report measure called the Delaying Gratification Inventory was developed, despite the fact that such activities are frequently employed to provide a behavioural indicator of delay of gratification (Hoerger, Quirk, & Weed, 2011). The five main areas of gratification delay that are covered by this measure are those related to food, physical pleasure, social engagement, money, and achievement. This test was employed in a study, and it was found to have a favourable relationship with self-control and forward-looking thinking (Milfont & Schwarzenhal, 2014). This interaction between a "hot" emotional system and a "cool" cognitive system contributes to the capacity for delayed pleasure. Our instinctive response to approach or avoid various stimuli is produced immediately by the "hot" system, whereas our strategic and rational behaviour is produced more gradually by the "cool" system (Metcalf & Mischel, 1999; Mischel & Ayduk, 2011). How effectively the "cool" system can calm down the "hot" system when it becomes engaged by affect-arousing stimuli

or events determines our capacity to postpone satisfaction and exercise effortful self-control.

Self-Control, Delay of Gratification and Future Thinking

Together with many other adaptive life outcomes like improved personal and interpersonal competences, the capacity to delay gratification as a kid is a strong predictor of self-regulation in the pursuit of goals as an adult (Moffitt et al., 2011, Mischel & Ayduk, 2011). Obesity, substance misuse, financial debt, and criminal convictions are only a few examples of the public health issues that are linked to deficiencies in gratification delay (Bembenutty & Karabenick, 2004; Baumeister et al., 2007; DeWall, Baumeister, Stillman, & Gailliot, 2007; Seeyave et al., 2009). Temporal discounting is a well-known phenomenon that makes it harder to exert conscious control over one's actions. As more time passes between the present and an expected reward or objective, people have a propensity to subjectively depreciate the worth of those rewards or goals (Mischel, 1974,1996). This phenomenon of temporal discounting has been studied extensively since Mischel first studied the delay of gratification (Mischel et al., 1972; Mischel, 1974; Trope & Liberman, 2003, 2010, Mischel & Ayduk, 2011). As the delay interval lengthens, the value of the delayed reward decreases, as does the person's motivation to choose the delayed reward over immediate gratification. Future temporal perspective and the capacity to postpone gratification have been directly linked in an academic setting (Bembenutty & Karabenick, 2004). Delaying current benefits, like going out with friends, in order to serve a future benefit, like finishing an assignment, is frequently necessary in such a situation. If an individual has their future goals in mind, they are more likely to be able to exercise self-control.

In this way, future-oriented individuals are more likely to practise self-control and delay gratification, being less likely to be impulsive and engage in risky behaviour. Going to bed and waking up earlier is also more common in people with better future

orientation and self-control. Contrarily, those who are present-oriented and more inclined to be evening people may have "social jetlag," in which case they find it difficult to adjust to the socially enforced schedule that is at odds with their biological cycle. This could deplete their ability to self-regulate, which would then make it harder for them to exercise self-control (Baumeister & Alquist, 2009; Milfont & Schwarzenthal, 2014). Construal Level Theory (CLT; Liberman & Trope, 2008) and the way humans conceptualize future occurrences help us understand temporal discounting and the capacity to postpone satisfaction. It has been suggested that we need to have a higher-level interpretation of events in order to exercise self-control (Fujita, Trope, Liberman & Levin-Sagi, 2006; Levin-Sagi & Fujita, 2007; Trope and Liberman, 2010, Fujita and Carnevale, 2012, and Trope and Fujita). Higher-level, more abstract mental construals that include the broader, simplified event specifics are used to depict farther-off events.

Conversely, proximal events are modeled by lower-level, more concrete mental construals, which are made up of the event's more precise and clear-cut elements (Fujita et al., 2006, Trope & Liberman, 2010 Maglio, Trope, & Liberman, 2015). High-level mental representations regarding one's current activities tend to make people more self-controlled and better able to postpone immediate gratification. They improve one's grasp of the broader ramifications of their decisions now for their aspirations in the future. However, people with low-level representations could show more self-control issues because they focus on the immediate and concrete aspects of their current experience (Fujita et al., 2006, Fujita & Carnevale, 2012, Maglio, Trope, & Liberman, 2015). With self-control at its core, the capacity to postpone satisfaction appears to indicate a better level of forward thinking. The review will now shift to a discussion of temporal perspective and further examine its psychological connections in light of how important thinking about the future becomes.

Theoretical Background and Literature Review

Self-Control Theory

One of the most popular criminological theories is Gottfredson and Hirschi's (1990) self-control theory (Agnew, 1995). (Agnew, 1995). Gottfredson and Hirschi (1990) present self-control theory as a general theory because it attempts to explain all individual differences in the propensity to commit or refrain from committing crime. The theory applies to all crimes and comparable conduct (such as drinking) committed after the age of eight in all contexts. The idea of self-control is central to Gottfredson and Hirschi's (1990) theory. Self-control is "the tendency to assess the complete range of potential costs of a specific act," according to Hirschi (2004, p.543). According to Hirschi (2004), self-control refers to a person's inhibitions against engaging in criminal or delinquent behaviour. Attachment, commitment, participation, and belief are considered components of the social control theory that describe these inhibitions (self-control). They assert that those who lack self-control can be described as instant gratification seekers, dim-witted, impulsive, insensitive, and having a predilection for simple, thrilling, and physical (as opposed to mental) work. The ability to live "relatively free of the deep attachments, goals, and moral views that bind most people to a life inside the law" is made possible by these traits (Hirschi, 2002, p.xxi). In other words, a person who lacks self-control is more likely to commit crimes and other similar activities because social ties that would have established a "self-imposed bodily restraint" (Hirschi, 2004, p. 544) did not develop.

According to Gottfredson and Hirschi (1990), inconsistent and unsuccessful parenting in terms of nurturing, teaching, and discipline results in an individual developing the aforementioned traits of low self-control. With this kind of parenting, negative behaviour and deviant activities go unpunished, which results in traits of low self-control that last into adulthood. Several long-term research have demonstrated that

self-control is a factor that is generally stable over time (Arneklev, Cochran, & Gainey, 1998; Turner & Piquero, 2002). A lack of self-control can show out in a variety of ways (Gibb & Giever, 1995). Many studies have sought to investigate the role of poor self-control in the conduct of crimes, and the majority of them have demonstrated that it is a significant factor in the explanation of crime (Pratt & Cullen, 2000). Low self-control is linked to criminal behaviour since they have similar traits. Poor self-control can also show itself in actions that are similar to criminal behaviour, such as using illegal substances, consuming alcohol, committing academic fraud, and gambling (Gottfredson & Hirschi, 1990).

For the same reasons criminal behaviour appeals to someone with poor self-control, these kinds of actions do as well (Wolfe and Higgins 113 applied psychology in criminal justice, 2008, 4(1)). Chapple, Hope, and Whiteford (2005) showed that self-control had a direct impact on moderating the association between parenting factors and adolescent substance use in their study on self-control and substance use. Recently, the Gottfredson and Hirschi (1990) approach has been used to try and pinpoint the factors that influence alcohol usage. Several studies (Arneklev, Grasmick, & Tittle, 1993; Gibbs & Giever, 1995; Sorenson & Brownfield, 1995; Winfree & Bernat, 1998; LaGrange & Silverman, 1999; Pratt & Cullen, 2000; Piquero, Gibson, & Tibbetts, 2002; Tibbetts & Whittimore, 2002). Researchers have recently looked at the relationship between conduct and self-control, as well as the desire for it. A probable missing component from Gottfredson and Hirschi's (1990) theory, according to Tittle, Ward, and Grasmick (2004), is the desire for control. The researchers believed that the core of their theory of behaviour was an individual's desire to regulate their behaviour. Tittle et al. (2004) distinguished between self-control (i.e., the capacity for self-control) and the desire for self-control in order to clarify this stance using the self-control theory.

According to the researchers, although some people may have high self-control abilities but not always wish to use them, others may have weaker capacities but have such a strong desire to rein in their rebellious impulses that they end up conforming. With this point of view, the researchers were able to theorize how behaviour and the ability and desire for self-control are related. Particularly, those who lack the capacity for the desire for self-control are more likely to engage in illegal activities. A person is less likely to offend if they have a high level of self-control capacity and self-control desire. These people are more prone to follow norms in society. Using a community sample, Tittle et al. (2004) demonstrated how the ability to exercise self-control and the desire to do so connect with criminal behaviour (*Applied Psychology in Criminal Justice*, 2008, 4(1)). Furthermore, they demonstrated that this interaction is dependent on a person's level of desire for control because they made the assumption that self-control capacity was stable. Recently, Cochran, Aleksa, and Chamlin (2006) reexamined this viewpoint using a sample of college students. They demonstrated that the ability to control oneself and the desire to control oneself have separate consequences on academic dishonesty. The connection between the ability for self-control and the desire for self-control was also demonstrated by Cochran et al. (2006), demonstrating that the interaction was dependent on the desire for self-control. These investigations have shed light on the fact that individuals differ in their aptitude and desire for self-control; yet, they have assumed that each person perceives or sees control over their conduct.

According to Gottfredson and Hirschi (1990), a person with less self-control could not be aware of the effects of their actions. Those with inadequate self-control may not realise this since they are unlikely to take the time, according to Tittle et al. (2004) and Cochran et al. (2006) views of the need for self-control as related to consequences. In their study of low self-control and freedom, Higgins and Ricketts (2004) demonstrated that this is the case. Freedom was measured using consequences that are comparable to the measures of desire for self-control. Yet, Tittle and Botchkovar (2005)

demonstrated that people might be able to sense some degree of control over their behaviour by looking at the results of their choices. As a result, those who have less self-control are probably aware that they have more control over their conduct. The Theory of Planned Behavior is one theoretical angle that acknowledges the significance of perception of control.

Purpose of the Study

The purpose of the study is to carry out an experiment on self-control among primary school Pupils in Agbowo U.I Ibadan Oyo State and also to replicate Marshmallow experiment on gratification in Nigeria using ages 6– 10 years.

. The specific objectives are to:

1. Examine the effect of gender on self-control among primary school pupils
2. Examine the effect of age on self-control among primary school pupils
3. Examine the of joint influence of age and gender on self-control among primary school pupils.

Research Hypothesis

1. There will be a significant influence of Gender on self-control among primary school pupils.
2. There will be a significant influence of Age on self-control among primary school pupils.
3. There will be a joint influence of age and gender on self-control among primary school pupils.

METHOD

Design

The study utilizes an experimental design to gather data in order to describe the situation as they exist. The research is interested in observing self-control; how children can delay their gratification in view of promised reward and the relationship that exists between variables of interest. Self-control is measured in terms of delayed and instant gratification; participant that will not wait for the researcher's return has instant gratification while the participant who will wait for the researcher's return has delayed gratification.

Research Participants

The population of this study comprises of children ages 6-10 (with a mean age of 7.36 and SD of 0.95) which fall in primary school pupils, so pupils in primary schools participated (Both male and female) in Agbowo U.I. Twenty-Eight pupils in the selected schools were used, Eighteen males and 10 females.

Sampling Technique: Simple random sampling was used in selecting the participants through balloting and they were randomly assigned into the experimental room.

Procedure

The researcher selected the pupils by using their class register, the researcher writes out all the numbers of the pupils in the register and picked randomly 25 pupils in the private school selected for the research. The pupils were given informed consent to give their parent, 10 pupils signed the consent, and they were used for the research. The researcher uses balloting in the government school to select the participants, Primary 1 and 2 were used because of the selected age range (6-10). The researcher

writes YES & No in a paper for the participants to pick, every participant that picks “Yes” were selected in the research and “No” were excluded. 18 pupils picked “Yes” out 32 pupils.

The researcher put each participant in a classroom and places a wafer biscuit in front of them to represent Marshmallow, the researcher says “The children could eat the biscuit, but if they waited for twenty minutes without giving in to the temptation, they would be rewarded with a second biscuit”. The researcher deliberately waited for 20 minutes to observe if the participant will wait or not. The research was conducted after the pupil’s long break in order to control for hunger, the participant were placed in a room each to control interference.

Results and Interpretations

The hypothesis one which states that there will be significant influence of gender on self-control among primary school pupils was tested using t-test and the result is presented in table 1.

Table 1:

T-test showing the influence of gender on self-control

Variables	Mean	SD	df	t	sig	P
Male	1.39	.502	26	-.506	.956	> .05
Female	1.41	.516				

Table 1 shows that there is no significant difference between gender and self-control (t =-.506, df = 26, p<.05) that is gender do not determine a child’s self-control.-

Hypothesis two which states that there will be a significant influence of age on self-control among primary school pupils. This was tested using t-test and the result is presented in Table 2

Table 2:

T-test showing the influence of Age on self-control

Variables	Mean	SD	df	t	sig	P
Younger	1.24	.44	26	-2.232	.034	<.05
Older	1.61	.504				

Table 2 shows that there is a significant difference between age and self-control ($t = -2.232$, $df = 26$, $p < .05$), that is the older you are the better you will delay gratification and the younger you are the lesser you delay the gratification.

Hypothesis three states that age and gender will jointly and independently predict self-control was tested using multiple regression analysis. The results are presented in Table 3

Table 3:

Summary of Multiple Regression Analysis Showing the Influence of gender and age on self-control

Predictors	B	B	T	P	R	R ²	F	P
Gender	.037	.036	.217	>.05				
Age	.290	.555	3.334	<.05	.555	.308	5.559	<.05

Dependent variable Self-control

Table 3 shows that there is a joint influence of age and gender on self-control ($R^2 = 0.308$, $F(4, 27) = 5.559$, $p < .05$), independently gender is not related with self-control ($\beta = .036$, $t = .217$, $p > .05$) but independently age is related with self-control ($\beta = .555$, $t = 3.334$, $p < .05$). Therefore, Age and Gender can influence people's level of self-control.

Discussions

Hypothesis one shows that there is no significant influence of gender on self-control that is gender do not determine a child's self-control. This finding is different from what the existing literature has declared. Jo & Bouffard, 2014 found out that *gender* influences self-control which indicate that girls generally exhibit higher self-control than boys. Gender did not significantly influence self-control because every child needs self-control regardless of individual's gender. Parent should endeavour to instill self-control into their child without focusing on gender.

Hypothesis two shows that there is a significant influence of age on self-control that is the older you are the better you will delay gratification and the younger you are the lesser you delay the gratification. This result shows that parent should expose their children to self-control early in life which will help them to have better control over life events. This result resonate with Moffitt et al., 2011 which says that early self-control

predicts a variety of later outcomes, such as income and financial security, physical and mental health, substance abuse, and social success. Instilling self-control in children earlier in their developmental stages will help them to stay away from risky behaviours that will affect their life negatively especially during adolescence. Self-control will help an individual to delay gratification having the understanding that delay will not reduce the pleasure but rather it will help individual to enjoy at the right time without having any regret later in life. It is expedient for parent to instill self-control into their children especially within this age group before they become an adolescent when pressure to listen to their peers will be high. For instance, self-control will help an adolescent not to engage in premarital sex by expressing the ability to delay gratification until when married. Having the understanding about the negative consequences of engagement in premarital sex.

Hypothesis Three shows that there is a joint influence of age and gender on self-control, independently gender is not related with self-control but independently age is related with self-control. Therefore, Age and Gender can influence people's level of self-control. This result resonate with the findings of Olasupo et al 2016 which observed that gender and age interacted together to influence self-control. Considering the joint influence of age and gender on self-control parent should endeavour to know the best method that they will adopt when instilling self-control in children.

Recommendations

- Parents/guardian should encourage their child to delay gratification so that when they get to adulthood stage, they will be patient enough to wait for their rewards and not cut corners.
- Teachers should encourage pupils in school (because this is their second home) on how they can develop self-control
- Developmental Psychologists should organize seminars in training parents on how they can help their child develop self-control through delay gratification at

tender age, Also to sensitize parent on the implication of self-control on the future of their child.

Limitations

- The study was carried out using only one local government (Ibadan North) in Ibadan metropolis.
- The sample size was too small (28)
- Unequal Gender (18 males and 10 female)

Conclusions

In this study, the researcher has successfully replicated Marshmallow experiment, showing associations with age and gender on self-control. The result reveals that age is related to self-control validating Marshmallow experiment. As self-control requires one to act in a manner that is consistent with distant future goals when tempted by immediate rewards, it has been proposed that an individual must hold a higher-level construal of events in order to exercise self-control. An individual with lower levels of self-control may not recognize the consequences of their actions because they are driven with immediacy reward. Since it is validated that age influences levels of self-control, parent should train their children earlier during developmental stages how to delay gratification so that they will have better future because self-control encompasses all sphere of life; academics, moral, physical and social. Delay of gratification shows high level of self-control while instant gratification depicts low level of self-control, if a child is trained earlier on how to delay gratification for better rewards such child will have bright future and the society will be devoid of any deviant act.

Strength: This study utilized randomization during selection and assignment of participants to the experimental conditions.

References

- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74(5), 1252–1265.
- Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science*, 16(6), 351–355.
- Bembenutty, H., & Karabenick, S. A. (2004). Inherent association between academic delay of gratification, future time perspective, and self-regulated learning. *Educational Psychology Review*, 16(1), 35–57.
- Duckworth, A. L., Kim, B., & Tsukayama, E. (2013). Life Stress Impairs Self-Control In Early Adolescence. *Frontiers in Psychology*, 3. [Http://Doi.Org/10.3389/Fpsyg.2012.00608](http://doi.org/10.3389/fpsyg.2012.00608)
- Duckworth, A. L., Tsukayama, E., & Kirby, T. A. (2013). Is it Really Self-Control? Examining the Predictive Power of the Delay of Gratification Task. *Personality and Social Psychology Bulletin*, 39(7), 843–855. [Http://Doi.Org/10.1177/0146167213482589](http://doi.org/10.1177/0146167213482589)
- Fujita, K., & Carnevale, J. J. (2012). Transcending temptation through abstraction: The role of construal level in self-control. *Current Directions in Psychological Science*, 21(4), 248–252.
- Langenfeld, T. E., Milner, S., & Veljkov, P.W. (1997). The Effects of Children's ability to Delay Gratification on School Related Behaviors. Retrieved From [Http://Eric.Ed.Gov/?Id=ED407174](http://eric.ed.gov/?id=ED407174)
- Metcalf, J., & Mischel, W. (1999). A Hot/Cool-System Analysis of Delay of Gratification: Dynamics of Willpower. *Psychological Review*, 106(1), 3–19.
- Milfont, T. L., & Schwarzenthal, M. (2014). Explaining why larks are future-oriented and owls are present-oriented: Self-control mediates the chronotype-time perspective relationships. *Chronobiology International*, 31(4), 1–8.
- Mischel, W. Father-Absence and Delay of Gratification: Cross-Cultural Comparisons. *Journal of Abnormal and Social Psychology*, 1961, 62, 116- 124. (B)



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Mischiell, W. Preference For Delayed Reinforcement and Social Responsibility. *Journal of Abnormal and Social Psychology*, 1961, 62, 1-7. (C)

Mischel, W. Theory and Research on the Antecedents of Self-Imposed Delay of Reward.

Maher (Ed.), *Progress In Experimental Personality Research*. Vol. 3. New York: Academic Press, 1966.

MISCHEL, W. *Personality And Assessment*. New York: Wiley, 1968.

Miscnul, W., & Gilt.Igan, C. F. Delay of Gratification, Motivation for the Prohibited Gratification, And Responses to temptation. *Journal of Abnormal and Social Psychology*, 1964, 69, 411-417.

Misoiiel, W., Grusec, J., & Masters, J. C. Effects of Expected Delay Time on the Subjective Value of Rewards and Punishments. *Journal Of Personality and Social Psychology*, 1969,

Mischel, W., & Metzner, R. Preference for Delayed Reward as a Function of age, Intelligence, and Length of Delay Interval. *Journal of Abnormal and Social Psychology*, 1962, 64, 425-431.

Mischkl, W., & Staitu, E. Effects of Expectancy on Waiting and Working For Larger Rewards. *Journal of Personality and Social Psychology*, 1965, 2, 625-633.

[Olasupo](#), M. O. & [Idemudia](#) E.S.(2017). Influence of Age, Gender, and Perceived Self-Control on Future Goals of Children in Adversities [Child Indicators Research](#) volume 10, pages1107–1119 (2017)