

The Power of Delayed Gratification—Walter Mischel’s ground breaking marshmallow experiment and the practical implications of delayed gratification

PSYCHOLOGY DISSERTATION/THESIS

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Background Information

Ever since Walter Mischel and his team made their findings public about the famed Marshmallow Experiment, popular culture has been buzzing with clichés, storylines and movements about the implications of delayed gratification. Clothing bearing clichés such as “don’t eat the marshmallow” and cartoon series showing the importance of learning delayed gratification have been some of the popular examples of the effects of the Marshmallow Experiment on mainstream culture. Even investment firms have joined the bandwagon and have used the Marshmallow Experiment findings to encourage retirement planning amongst workers (Urist, 2014).

Delayed gratification denotes the ability to forgo an immediate reward in anticipation of getting a better reward later on. Mischel’s revolutionary experimental findings have paved the way for delayed gratification to be used as a metric for self-control, temporal discounting and the ability to envisage and plan for the future in both human and non-human subjects (Koepke et al. 2015). Several modifications of the original delayed gratification experiment have been conducted, all of which confirm the original claims made by *Mischel et al. 1972* as well as move to consolidate on the findings made by Mischel and his colleagues. In a recent study, Rung and Young showed that waiting increased for all human participants who were assigned to conditions in which the size of the reward or the probability of the receiving the reward was a function of the time waited except for human participants waiting for a greater reward rather than a greater reward probability (Rung & Young, 2015). Delayed gratification has also been replicated in several animal models including a case where it has been shown that a

trained parrot will generally wait for a better reward regardless of whether the experimenter is present or not (Koepke et al. 2015).

This essay aims to critically examine Walter Mischel's original delayed gratification experiment and the practical implications the findings from the original experiment has on human behaviour.

Insights into Walter Mischel's revolutionary experiment

Walter Mischel's experiment on delayed gratification began in the 1960s when he along with his team tested hundreds of pre-schoolers, aged between 4 and 5 (Clear, 2015). Mischel's initial experimental objective was to identify the mental processes that enabled certain people to delay gratification whilst others gave up (Lehrer, 2009). He devised his experiment by employing his extensive research experience in psychology and observations of the behavioural patterns of his children (Hadad, 2015). The experiment entailed placing each pre-schooler in a private room by themselves and setting a marshmallow on a table before them. The room was cleared of all distractions so the only thing the child will be focusing on will be the marshmallow. The child was then granted the options of either eating the marshmallow and then having none 15 minutes later or waiting patiently till the time ran out then get rewarded a second marshmallow for waiting. Video footage was taken of each child's actions whilst the experimenter was away. Footage of the experiment showed certain children covering their eyes, positioning themselves away from the marshmallow, stroking the marshmallow and kicking the desk as they tried to restrain themselves from eating the marshmallow. However, some children ate the marshmallow right away after the experimenter left the room. A few

other kids successfully managed to wait the entire 15 minute duration and they were thus rewarded with a second marshmallow (Mischel et al. 1972).

Mischel's experiment was longitudinal meaning follow up studies were carried out for the next few decades to gain more information about the experimental subjects. These follow up studies showed that who delayed gratification by resisting attempts to eat the marshmallow until the researcher returned developed into more cognitively and socially balanced adolescents, attained relatively higher grades and coped much better with frustration and stress (Mischel et al. 1989). Delayed gratification also related with high parental personality ratings in adolescents as well as verbal fluency, rational thinking, attentive processes and planning (Mischel et al. 1988).

The coping mechanisms deployed by the children to resist eating the marshmallow (covering their eyes, fidgeting with their hair, positioning themselves away from the marshmallow, kicking the desk and stroking the marshmallow) before the time was due constituted the conversion of hot cognitions to cold ones. These mechanisms are the basis for discipline during goal oriented tasks which accounts for why children who delayed gratification were on average more successful than their peers who didn't (Metcalf & Mischel, 1999).

Mischel and his team and other researchers conducted successive experiments to consolidate on the original marshmallow experiment. Mischel presented the ability to delay gratification as willpower. He postulated a two-system framework that underlied the process that enabled or disabled willpower during the process of delaying gratification. He referred to these two systems as a hot (emotional or go) system and a cool (cognitive or know) system. The hot system forms the basis of impulsivity and

emotionality and is also crucial towards classic conditioning. The cold system on the other hand by nature is rational based, cognitive, emotionally neutral and essentially a goal oriented thought system. The balance between both systems is primarily determined by stress levels, an individual's stage of development and the dynamics of self-regulation. Children who fail to control their willpower allow their hot system override their cold system leading to impulsivity. This explains why certain children were quick to eat the marshmallow after the researcher left the room. Children who successfully delayed gratification allow their cold system to dominate leading them to make decisions based on rationality rather than emotions (Metcalf & Mischel, 1999).

Casey et al. 2011 also conducted a follow up study 40 years after Mischel's classic experiment which was aimed at understanding the neural basis of delayed gratification. A subset of the test subjects who originally took part in the experiment were recruited for functional imaging tests. In individuals who maintained high levels of delayed gratification, the prefrontal cortex (control centre for executive functions) distinguished between nogo and go trials to a greater extent. However in individuals which low levels of delayed gratification, the ventral striatum (processing centre for rewards) showed increased recruitment levels. Though not conclusive, *Casey et al. 2011's* research study offers some incredible insights into the neurobiological basis for delayed gratification.

Practical Implications of delayed gratification

The results from Mischel and his colleagues original experiment on delayed gratification are conclusive—children who learn how to delay gratification earlier in life grow up to become successful adults. The reality is success is contingent on deferring incipient pleasure and discipline which is the basis of delaying gratification. Without the

ability to delay gratification, it is virtually inconceivable for an individual to attain success in any venture. For instance, the student who consistently chooses the immediate pleasure of watching television rather than studying for their examinations to attain a greater reward of academic achievement and possibly work success is less likely to succeed compared to the student who forgoes temporary pleasure to study. The weight lifter who does not discipline abstain from tasty yet unhealthy foods is likely to score higher BMI as well as have a less desirable body compared to the disciplined weight lifter.

Considering the results of Walter Mischel's experiment, the onus lies on parents to inculcate in their children the ability to delay gratification for greater rewards and success in the future. Mischel and his colleagues have conclusively shown that the ability to delay gratification is related with academic success. Inculcating in children the need to delay gratification by studying will ensure that they attain success in their school courses (Mischel et al. 1989). Impulsivity is also a trait that will have to be eliminated in children early enough to ensure their success. Basing decision making on sentiments and emotions is a sure sign to failure (Mischel et al. 1988).

Educational boards, course developers, instructors and school principals ought to tailor their courses and educational programs to ensure that the concept of delaying gratification is inculcated within students. As uncovered by *Mischel et al. 1989*, delayed gratification is vital towards academic success. Therefore, it is necessary that these stakeholders tailor their educational courses and programs to ensure that students approach them from a rational and cognitive based thinking framework rather than an impulsive one.

Personal deductions on the authenticity of the delayed gratification phenomenon

My personal experiences confirm the claims made by Mischel and the countless other experiments on delayed gratification. I used to be an avid television watcher. I tried as much as possible to keep track of as many episodes as I was interested in. I took the extra initiative to upgrade on my cable television package as well as purchase DVD copies of series that I had previously watched. My time investment watching television took a serious toll on my grades in high school and possibly threatening my admission into university. It was clear that my impulsivity and strong desire for instant gratification was not only affecting my academic performance but as well affecting my psychological health and my financial well-being. My mother confronted me about my unusual behaviour and sought to consult our family psychologist for assistance. Interestingly, our family psychologist pointed to Walter Mischel's classic experiment and explained to me the need to do away with my excessive television habits in order to raise my grades. Prior to giving her assessment, she provided both my mother and myself questionnaires to complete. She also privately interviewed my mother as well as myself. Based on the results she got, she theorized that the essence of delaying gratification had not been properly inculcated in me from childhood. Reminiscing over my childhood provided me with no option but to agree with her assertions. Whilst growing up, my sense of impulsivity was very high and I used to throw tantrums, cry loudly or bang my head on the floor whenever I couldn't get what I wanted. My parents would then provide me with what I wanted. This continued for quite a while till I reached adolescence. I narrated this to the psychologist and she stated that the provision of what I wanted by my parents was reinforcing my behaviour and was arguably critical in my sensual desires for instant

gratification. To begin to mitigate the destructive effects of the impulsivity that I had developed over the years, she created a regimen. Within the regimen, it detailed that my access to television had to be severely restricted till I had improved my grades, a reward scheme was to be implemented when my grades began to improve and I had to be monitored daily to ensure that I was studying. I diligently followed the regimen to the letter and within a few months, my grades began to dramatically improve. Besides having read about the phenomenon, its practical application in my life has compelled me to strongly believe in its utility.

Conclusion

Walter Mischel's experimental findings on delayed gratification undoubtedly has altered conceptions on what it takes to become successful in any venture. As shown above, the ideals of effective decision making and goal oriented achievements can be attained through the process of transmuting hot cognitions into cold ones. Investing a bit more time to gain a bigger reward rather than obtaining a smaller reward now is without doubt a benchmark for success. Children who develop the ability to delay gratification earlier on in their childhood are more likely to achieve success than children who are instant gratifiers.

Parents who also show impulsive tendencies in their behaviour are also likely to raise children who show less regard for delaying gratification (Olson et al. 1990). It is therefore very essential that parents pay particular attention towards inculcating within their children the need to delay gratification in order to increase their chances of success in the future.

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