



# Double stimulation in the waiting experiment: Testing a Vygotskian model of the emergence of volitional action



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## ABSTRACT

Vygotsky refers to a waiting experiment and uses it as an example to conceptualize double stimulation as human beings' ability to willfully transform conflictual circumstances with the help of auxiliary means. This experiment can be considered a key to a Vygotskian view on this topic, which can significantly contribute to today's discussions of ways to support transformative agency. In this article we provide an overview of a waiting experiment, recently conducted with the specific aim of testing a Vygotskian model of the emergence of volitional action. While confirming this model, the findings suggest two extensions to it. One extension is the inclusion of participants' life activity. The second extension, closely related to the first one, points at fluid and iterative movements that may occur between and within the phases of the model, due to the interference of life activity and conformity to the experimental setup.

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## 1. Introduction

In today's world of constant rapid changes, understanding how people form volitional actions in situations of uncertainty and cognitive incongruity is a crucial educational challenge. These actions are at the core of transformative agency (Béhague, Kanhonou, Filippi, Lègonou, & Ronsmans, 2008; Haapasaari, Engeström, & Kerosuo, *in press*). A key conceptual resource for studying this type of actions is Vygotsky's principle of double stimulation. This principle refers to the mechanism with which human beings can intentionally break out of "meaningless situations" (Vygotsky, 1987a, p. 356) and transform them.

Double stimulation appears in a very fragmented way in the literature. No comprehensive account was left either by Vygotsky or by his closest colleagues of the conducted experiments and the broad theoretical implications of their results. Instead, if we want to learn about double stimulation from the work of these authors, we have to bring together numerous sources, most of which tackle the topic rather unsystematically. Taken alone, the fragments we find in these sources can be considered more as hints than as explanations. The fragmentation in these texts is due most likely to the academic, historical and political circumstances in which the work of these authors were conducted (Sannino, Daniels, & Gutierrez, 2009; for a first attempt at integration of these fragments and at an overview of double stimulation see Sannino, *submitted for publication*).

In connection with his principle of double stimulation Vygotsky (1987a, 1997b, 1998a) refers to an experiment called the waiting experiment or the experiment of the meaningless situation. This consists of inviting a participant to an experiment and then leaving her/him in a room without explanations and without experimental task. The experimenter observes from a separate room how the participant deals with this situation. Vygotsky uses this experiment as an example which is instrumental for his conceptualization of human beings' ability to agentively transform the circumstances in which they find themselves. This experiment can be considered a key to a Vygotskian view on double stimulation, which can significantly contribute to today's discussions of ways to support

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transformative agency. In this article we report key results of a waiting experiment recently conducted in Helsinki with 25 participants and with the specific aim of testing a Vygotskian model of the emergence of volitional action.

Section 2 of this article gives an overview of Vygotsky's descriptions of the experiment. Section 3 presents a multiphase embryonic model of double stimulation based on Vygotsky's writings between 1931 and 1934. Section 4 presents the design of the experiment and the data collection, as well as our method of data analysis. Sections 5 and 6 report the results of our analyses. More specifically, Section 5 examines the extent to which the phases of the model occur in our experiment. This section also looks at the occurrence of the phases in the case of participant P20, which quite closely corresponds to the model. The overview of all the 25 cases and the detailed presentation of the case of P20, while mainly confirming the model, lead to a suggestion of two extensions to it. One extension consists of including a connection to the participants' life activity. The second extension consists of reconsidering the order of the phases in the model due to interference of life activity and conformity to the experimental setup. Section 6 looks at the viability of these two suggestions by analyzing the role played by life activity in all the experiment cases. Section 7 concludes the article with a summary of the findings and an expanded representation of the model based on these findings.

## 2. Vygotsky's descriptions of the waiting experiment

Vygotsky describes the experiment in three texts (Vygotsky, 1987a, 1997b, 1998a) concerning volitional action. One of the three descriptions (Vygotsky, 1987a, p. 356) is from a 1932 lecture on the problem of will and its development (Vygotsky, 1987b, p. 384):

“In experiments involving meaningless situations, Lewin found that the subject searches for some point of support that is external to him and that he defines his own behavior through this external support. In one set of experiments, for example, the experimenter left the subject and did not return, but observed him from a separate room. Generally, the subject waited for 10–20 minutes. Then, not understanding what he should do, he remained in a state of oscillation, confusion, and indecisiveness for some time. Nearly all the adults searched for some external point of support. For example, one subject defined his actions in terms of the striking of the clock. Looking at the clock he thought: ‘When the hand moves to the vertical position, I will leave.’ The subject transformed the situation this way, establishing that he would wait until 2.30 and then leave. When the time came, the action occurred automatically.” (Vygotsky, 1987a, p. 356)

Another description of the experiment (Vygotsky, 1997b, p. 212) appears in a posthumous monograph on the history of the development of higher mental functions, originally written in 1931 (Vygotsky, 1997a, p. 279). The monograph chapter which includes the description concerns the topic of self-control:

“Man subjects to himself the power of things over behavior, makes them serve his own purposes and controls that power as he wants. He changes the environment with his external activity and in this way affects his own behavior, subjecting it to his own authority. That in Lewin's experiments we are actually speaking of such control of oneself through stimuli is easy to see from his example. The subject is asked to wait for a long time and to no purpose in an empty room. She vacillates – to leave or to continue waiting, a conflict of motives occurs. She looks at her watch; this only reinforces one of the motives, specifically, it is time to go, it is already late. Until now the subject was exclusively at the mercy of the motives, but now she begins to control her own behavior. The watch instantly constituted a stimulus that acquires the significance of an auxiliary motive. The subject decides ‘When the hands of the watch reach a certain position, I will get up and leave.’ Consequently, she closes a conditioned connection between the position of the hands and her leaving; she decides to leave through the hands of the watch and she acts in response to external stimuli, in other words, she introduces an auxiliary motive similar to the dice or the count ‘one, two, three’ for getting up.” (Vygotsky, 1997b, p. 212)

Yet another description (Vygotsky, 1998a, p. 262) of the experiment is included in a lecture on early childhood originally given by Vygotsky during the 1933/1934 academic year (Vygotsky, 1998b, p. 332). In this text Vygotsky undertakes an analysis of the child's action in relation to the external environment:

“In Lewin's experiment, this was the procedure: the subject was invited to the laboratory, then the experimenter left for several minutes with the excuse that he had to prepare something for the experiment, and he left the subjects alone in the new environment. He waited ten to fifteen minutes. In this situation, the subject frequently began to look around the room. If there was the clock, he would check the time; if there was an envelope, he would check to see if there was something in it or if it was empty. In this state, every action of the person is determined by what he sees, which is a remote analogy to the behavior of the child in early childhood. This is the source of the child's connectedness solely to a present situation. In contrast to later age levels, in early childhood, the child does not bring knowledge of other possible things into the situation.” (Vygotsky, 1998a, p. 262)

Although Vygotsky refers to this experiment as Lewin's experiment, a complete account of this experiment could not be found in Lewin's published works. One text by Lewin (1999), originally published in 1926, includes a brief reference to the experiment and indicates that it was carried on by his student Tamara Dembo. Another description (Dembo, 2002) is included in a report of a meeting held in 1925 at the University of Berlin on the experiments Dembo was conducting at the time within her doctoral study on anger. The experiment was eventually not included in Dembo's dissertation because it did not provoke anger among the participants (Van der

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