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# Destiny or control of one's future? Fatalistic time perspective and self-esteem in extraverts and introverts

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**ABSTRACT**

A sense of control over time and over what is happening in life is highly significant for psychological functioning. The aim of this experiment was to test the effect of fatalistic time perspective on self-esteem in extraverts and introverts. We conducted an experiment in which fatalistic time perspective was induced in participants ($N = 104$) high and low in extraversion. The experimental group's task was to put themselves into the situation of the presented character, who exhibited a strongly fatalistic time perspective. The results showed that introverts after the induction of fatalistic time perspective had higher self-esteem than introverts after neutral induction. There was no significant difference in self-esteem between extraverts after the induction of fatalistic time perspective and extraverts after neutral induction. We interpreted the results in the context of the interactive model of fatalism.

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Experiment; fatalistic time perspective; time perspective; Zimbardo Time Perspective Inventory

## Introduction

The human being is said to be immersed in time, and therefore the way of experiencing time is related to quality of life (Stolarski, Matthews, Postek, Zimbardo, & Bitner, 2014; Zhang & Howell, 2011; Zimbardo & Boyd, 1999, 2008). A sense of relative control over time and what is happening in life is a variable highly significant for psychological functioning (Maercker, Ben-Ezra, Esparza, & Augsburger, 2019; Zimbardo & Boyd, 1999, 2008; Zuo, Zhang, Wen, & Zhao, 2020). The aim of this study was to examine the relationships between fatalistic time perspective (Zimbardo & Boyd, 1999), extraversion/introversion (McCrae & Costa, 2004), and self-esteem (Rosenberg, 1965). We tested the influence of induced state fatalistic time perspective on temporary self-esteem in extraverts and introverts. Fatalistic time perspective was understood in accordance with the definition provided by Zimbardo and Boyd (1999), as passivity in the present associated with a

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belief that one has little influence on the future. The core of fatalistic time perspective is a set of beliefs pervaded by a present-oriented focus, because in this case a focus on the present is the result of a weak sense of control over the future (Stolarski, Fieulaine, & Zimbardo, 2018). Individuals with a strongly fatalistic time perspective have a feeling that life is controlled by forces that they have no influence on and that the future is predetermined. They are convinced that life will run its course whatever they do and that it is better to count on a stroke of luck than to expect to achieve something through hard work (Zimbardo & Boyd, 1999, 2008). In the present study we analyzed fatalistic time perspective as a state—that is, as a temporary focus of attention (see Stolarski et al., 2018).

In previous studies, fatalistic time perspective correlated significantly positively with aggression, anxiety, and depression and negatively with consideration of future consequences (Maercker et al., 2019; Zhang & Howell, 2011; Zimbardo & Boyd, 1999, 2008; Zuo et al., 2020). Zhang and Howell (2011) found fatalistic perspective to be negatively related to extraversion and self-esteem (see Sobol-Kwapinska & Jankowski, 2015; Zimbardo & Boyd, 1999). In the study by Sekścińska, Rudzinska-Wojciechowska, and Maison (2018), after the induction of fatalistic time perspective the subjects had a higher tendency to spend money on consumption and a lower tendency to invest than the subjects who had a different time perspective induced.

However, some people prefer to live as if what happened to them depended on fate or destiny; they prefer to toss a coin or wait for issues to resolve themselves rather than independently try to control their life. The feeling that fate determines the direction of a person's life is sometimes more beneficial for people than the belief that a person holds time in their hands (Anagnostopoulos, Kolokotroni, Spanea, & Chryssochoou, 2006; Campos, Besser, Ferreira, & Blatt, 2012). Guzman, Santiago-Rivera, and Hasse (2005) propose an interactive model of fatalism—namely, one in which the character of fatalism depends on the social environment. For example, fatalism in the educational environment in the USA will be a maladaptive attitude, while in other contexts this attitude may be treated as a personal resource. Similarly, Falicov (1998) distinguished two theories of fatalism: the deficit-oriented theory, in which fatalism is a factor increasing psychological distress, and the resource-oriented theory, in which fatalism is understood as an attitude that helps individuals cope with difficult life experiences, such as experiences of loss, which are beyond control (see also Neff & Hoppe, 1993).

We predicted that the level of extraversion would be a factor influencing the relationship between fatalism and self-esteem. Self-esteem was understood in accordance with Rosenberg's (1965) definition of the concept, as

the global evaluation of one's worthiness as a human being, indicating the degree to which individuals are satisfied with themselves. Self-esteem is linked with a sense of self-acceptance and self-respect (Orth, Robins, & Widaman, 2012) and does not necessarily reflect a particular person's objective competencies (Orth et al., 2012). High self-esteem is linked with a range of positive outcomes, such as psychological adjustment, positive affect, and sense of happiness. Researchers underscore the strong relationship between low self-esteem and depression (Brunet, Pila, Solomon-Krakus, Sabiston, & O'Loughin, 2019; Crowe, Daly, Delaney, Carroll, & Malone, 2019). According to researchers investigating self-esteem, it plays a central role in the structure of the self, since it determines the way people think about themselves, evaluate themselves, and react to important life events. People with low self-esteem do not always use opportunities to achieve success in situations in which they could cope and tend to generalize the consequences of failure too much (Moritz & Roberts, 2018; Orth et al., 2012).

Extraversion was understood in line with McCrae and Costa (2004) approach, as a personality trait linked with sociability, vigor, tempo, and predisposition to experience positive affect. Extraverts need strong positive experiences, which is why they have a stronger motivation to seek them (Wilmot, Wanberg, Kammeyer-Mueller, & Ones, 2019). Introverts, by contrast, are characterized by low life energy; consequently, they seek experiences "here and now" to a smaller degree, prefer to spend time in solitude, less often experience positive emotions, and have a rather moderate emotional life (Costa & McCrae,1992; Gonzalez et al., 2014).

We predicted that manipulating time perspective would influence self-esteem in a way that depends on the level of extraversion. We expected that in extraverts (high in extraversion) a fatalistic induction would lower self-esteem when compared to neutral induction, while in introverts (low in extraversion) it would increase self-esteem. In order to seek experiences "here and now" more effectively, one has to be active. An extravert is a highly sociable and active person, deriving pleasure from contacts with other people, whereas a sense of having no control over time and the future can make it more difficult to engage in activities and to establish or maintain relations with others. Moreover, extraverts are, by nature, energetic and expansive (Costa & McCrae,1992; Gonzalez et al., 2014), which is why the belief in having no influence on their own life may significantly decrease their self-esteem. Introverts have a rather weak motivation to seek positive experiences and a weak motivation to achieve; they, like peace and passivity. They prefer waiting for what the future holds to being active and controlling the course of events (Wilmot et al., 2019). That is why introverts will probably feel better if they adopt a time perspective that matches

their disposition. They feel better when they believe that what will happen depends to a greater extent on fate or chance than on their decisions and efforts.

## Method

### Participants

The study was conducted in Poland and involved 104 Polish-speaking participants (45 male and 59 female; aged 20–70, $M$ =: 46.48, $SD = 14.03$). This group size allowed us to detect a medium effect size ($f^2 = .15$) with high power (.99) (Faul, Erdfelder, Lang, & Buchner, 2007). These subjects had previously participated in a large online study ($n = 400$) which assessed variables including trait extraversion. The participants were recruited from a Polish national survey panel (http://panelariadna.pl/), and they were offered points exchangeable for a prize as a reward for participation. All subjects gave their written consent to participate in the study. Individuals who scored at the extremes (above the 70th percentile: extraverts, $N = 52$; below the 30th percentile: introverts, $N = 52$) on the Extraversion (EXT) scale of McCrae and Costa (2004) NEO-Five-Factor Inventory (NEO-FFI) were invited to participate in the study via e-mail. The participants were debriefed at the end of the research procedure. The study protocol and procedure received approval from the Research Ethics Board at the John Paul II Catholic University of Lublin.

### Materials

We performed all measurements using self-report Likert-type questionnaires. In all of the scales that we used, high scores indicated a high level of a given characteristic. Both scales had been used in previous studies on Polish samples, confirming their reliability and validity (the Extraversion scale—e.g., Szczygiel & Mikolajczak, 2018; the Self-Esteem Scale—e.g., Błachnio et al., 2016).

### Extraversion

Extraversion was assessed using the Extraversion (EXT) scale from McCrae and Costa (2004) NEO-Five-Factor Inventory (NEO-FFI), adapted into Polish by Zawadzki, Strelau, Szczepaniak, and Sliwinska (1998). The Extraversion scale measures warmth, assertiveness, activity, gregariousness, excitement seeking, and positive emotions. The measure consists of 12 items with a 5-point rating scale, from 1 = *strongly agree* to 5 = *strongly disagree* ("I like to have a lot of people around me"). The overall score is computed by adding up the individual item scores, according to the key.

Higher scores indicate higher levels of trait extraversion. Scoring low on the extraversion scale is equivalent to the trait of introversion. The internal consistency of this scale ranged from .75 to .87 (McCrae & Costa, 2004). In this study Cronbach's alpha was .77.

### *Self-esteem*

State self-esteem was assessed by means of the Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965), adapted into Polish by Dzwonkowska, Lachowicz-Tabaczek, and Laguna (2008). We used the SES with a modified instruction: the respondents were asked to express their opinion at this particular time (see Dzwonkowska et al., 2008). The measure consists of 10 items (e.g., "On the whole, I am satisfied with my life") with a 4-point rating scale, from 1 = *strongly agree* to 4 = *strongly disagree*. The overall score is computed by adding up individual item scores, according to the key. Cronbach's alpha in this study was .84—a value similar to those reported elsewhere (Dzwonkowska et al., 2008).

### *Fatalistic time perspective induction*

The induction consisted in the presentation of descriptions of an imaginary man or woman—with a dominant fatalistic time perspective or neutral. The descriptions were prepared mainly based on the items of the ZTPI Present-Fatalistic scale (Zimbardo & Boyd, 1999), which means that items from this scale were rephrased into sentences about the characteristics of the imaginary man or woman. Each participant was given a vignette (fatalistic or neutral) and asked to imagine themselves in the scenario described therein (see Appendix). We gave the following specific written instruction to the participants: "Please read the short description of a person and try to put yourself in their situation. At the end of the study you will be asked to recall various pieces of information about that person. If you imagine yourself in the situation described, you will find it easier to remember that information. In previous studies of this kind, we observed that the people who approached the task diligently performed it better and found it more interesting than those who followed the instructions carelessly. After carefully reading the description provided, please spend a few minutes thinking about the person presented and try to look at the world through their eyes, put yourself in that person's situation, and empathize with their feelings and attitudes."

To examine the effectiveness of the fatalistic induction, we asked the participants to choose one of the following statements: (1) My time is fully under my control; (2) My time is heavily under my control; (3) It is difficult for me to determine whether I am in control of time or not; (4) My

time is under my control to a small degree; (5) My time is not under my control at all.

### Procedure

We assigned participants high in extraversion (extraverts) to one of two conditions: fatalistic perspective ($n = 26$) or neutral ($n = 26$). Similarly, we assigned participants low in extraversion (introverts) to one of two conditions: fatalistic perspective ($n = 26$), or neutral ($n = 26$). The assignment to particular conditions was random. Afterwards, the participants undertook a guided imagery task that was designed to temporarily alter their time perspective. The participants were requested to spend three minutes vividly imagining themselves in the situation described, and then they completed the fatalistic perspective item. They were blind to the condition that they were assigned to. After they had finished the induction procedure, the participants completed the SES. As part of the debriefing procedure, we carried out a happy mood induction, after which the participants were given a brief explanation concerning the aim of this study.

## Results

### Manipulation check

We used SPSS 22 to perform the statistical analysis. The significance of inductions was analyzed for the fatalistic perspective induction. We performed a 2 (extraversion: high vs. low) × 2 (time perspective type: fatalistic vs. neutral) analysis of variance (ANOVA) on the fatalistic item (Figure 1). This analysis revealed a significant effect of fatalistic perspective ($F(1, 103) = 8.38$, $p < .01$, $\eta^2 = .08$) and a non-significant effect of extraversion ($F(1, 103) = 1.94$, $p = .17$, $\eta^2 = .02$). These results confirmed the success of the induction (fatalistic perspective: $M = 2.94$, $SD = 1.14$; neutral: $M = 2.42$, $SD = 0.67$). The interaction effect was also significant ($F(1, 103) = 5.07$, $p < .05$, $\eta^2 = .05$). Test t was conducted to examine the differences between an experimental (with the fatalistic perspective induction) group and a control group (with the neutral induction) on the fatalistic item, in introverts and extraverts. In the case of introverts there was a significant difference between the experimental ($M = 3.27$, SD = 1.01) and control group ($M = 2.35$, SD = .56) on the fatalistic item ($t = -4.10$, $p < .001$). In the case of extraverts there was not a significant difference between the experimental ($M = 2.62$, SD = 1.20) and control group ($M = 2.50$, SD = .76) on the fatalistic item ($t = -.41$, $p = .68$) (Figure 1).

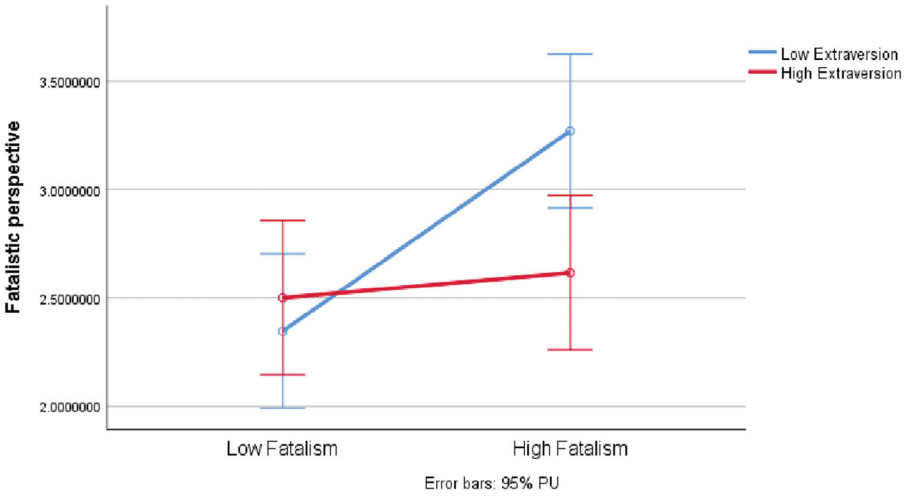


**Figure 1.** Fatalistic perspective as a function of state fatalistic perspective and extraversion
*Note.* High Fatalism = state fatalistic perspective induction; Low Fatalism = neutral induction.

### *Extraversion and induced fatalistic time perspective as predictor of state self-esteem*

We performed a 2 (extraversion: high vs. low) × 2 (time perspective type: fatalistic vs. neutral) analysis of variance (ANOVA) in self-esteem (Figure 2). This analysis revealed a non-significant main effect of fatalistic perspective ($F(1, 103) = 2.80$, $p = .096$, $\eta^2 = .27$) and a non-significant main effect of extraversion ($F(1, 103) = .05$, $p = .82$, $\eta^2 = .001$). The interaction effect was significant ($F(1, 103) = 4.30$, $p < .041$, $\eta^2 = .041$). Test t was conducted to examine the differences between the experimental (with the fatalistic perspective induction) group and the control group (with the neutral induction) on self-esteem, in introverts and extraverts. In the case of introverts there was a significant difference between the experimental ($M = 30.04$, SD = 4.28) and control group ($M = 27.15$, SD = 3.55) on self-esteem ($t = -2.64$, $p < .01$). In the case of extraverts there was not a significant difference between the experimental ($M = 28.27$, SD = 3.98) and control group ($M = 28.58$, SD = 3.85) on self-esteem ($t = .28$, $p = .68$).

## Discussion

The aim of this study was to test the influence of state fatalistic time perspective on self-esteem in extraverts and introverts. We applied an experimental design in the study. Our findings were partially consistent with the hypotheses. As expected based on the interactive model of fatalism by Guzman et al. (2005), the character of fatalistic time perspective depended on the level of extraversion. It turned out that the induction of fatalistic

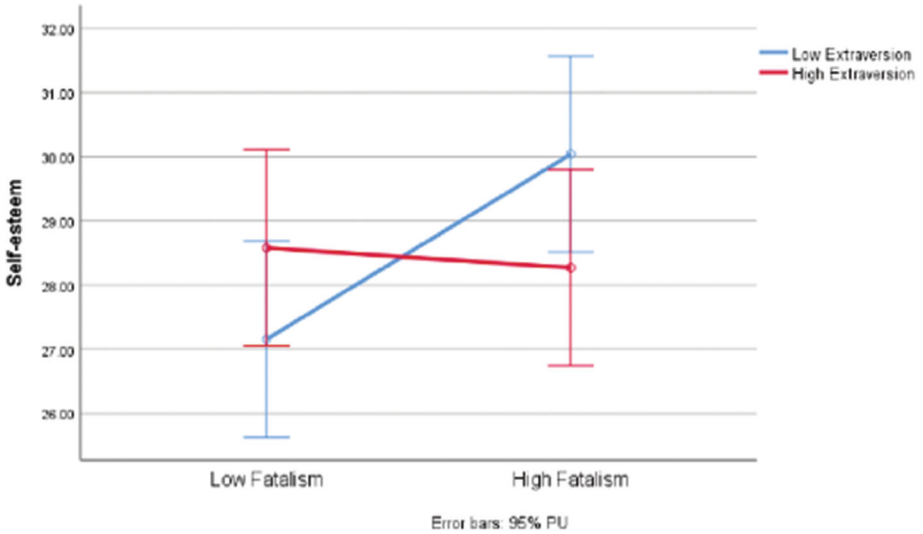


**Figure 2.** State self-esteem as a function of state fatalistic perspective and extraversion. High Fatalism = state fatalistic perspective induction; Low Fatalism = neutral induction.

perspective increased the level of self-esteem in introverts, whereas in extraverts it had no influence on self-esteem.

A possible explanation for the lack of effect of the induction on extraverts' self-esteem may be that extraverts had difficulties empathizing with the person depicted in the vignette, while introverts may not have had such difficulties. The lack of effect in extraverts can also be explained by the fact that extraverts have a strong sense of control over time and therefore a temporary feeling of not being in control of the future does not affect them. As research results show (Sobol-Kwapińska & Przepiorka, 2019), thinking about time as controllable or uncontrollable does not have much impact on the well-being of extraverts and on the belief that they can cope with negative mood. Extraverts felt as comfortable about the situation of inducing the ego-moving perspective as they did about the time moving perspective. A possible explanation could also be that extraverts have a stable level of self-esteem, similar when they feel in control of time and when they do not. Perhaps they can feel comfortable in both situations (see Pérez-Fuentes et al., 2019; Zeigler-Hill et al., 2015). Moreover, extraverts pay less attention to their own internal states, in contrast to introverts (Costa & McCrae, 1980). Therefore, their self-esteem may be less related to their emotional states and internal experiences and more strongly related to external experiences and situations.

Perhaps the sense of control over time and the related sense of full responsibility for their own lives are too much of a burden for introverts. As shown by the results of the study conducted by Gonzalez et al. (2014),

introverts endure fatigue worse than extraverts. It can, therefore, be assumed that they cope less effectively with the tension involved in taking responsibility for their decisions. When the responsibility for the course that life takes is partly transferred to fate, it is easier to maintain one's self-esteem. In addition, as people with lower energy and less active than extraverts, introverts tend to prefer a calm and passive lifestyle. It can be said that they prefer being carried by time to actively moving in time: they prefer to wait for what time will bring them rather than strive for rewarding stimuli themselves.

Our results can also be looked at in the context of the distinction introduced by Falicov (1998). Perhaps for introverts fatalistic perspective is one of the coping strategies, enabling them to transfer the burden of responsibility from themselves to external factors. It should also be stressed that fatalistic perspective consists in a belief that life is governed by eternal forces, which are not necessarily evil forces. For strongly religious individuals, for instance, fatalistic time perspective may mean a belief that their life is guided by a supernatural being who cares about them.

The results of this study have a notable applicative value. Meta-analyses of studies on self-esteem indicate that it is possible to increase self-esteem by means of psychological interventions (Orth et al., 2012). Especially important in the context of psychological work on increasing self-esteem is the knowledge of the relationships between self-esteem and basic personality traits (see Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001). The results of our research suggest that in a therapy or coaching with introverts it may be important to develop the belief that not everything in life depends on you and that there are situations beyond human control.

There are some limitations to our study. The size of the sample was rather small. In the future, longitudinal studies should be conducted to determine the influence of fatalistic time perspective on self-esteem. Other limitations are that trait fatalistic perspective was not controlled for in our analyses and that the effectiveness of fatalistic induction was not particularly high. Moreover, the generalizability of our present findings may be limited due to the fact that the participants represented one culture only. Caution is therefore recommended when generalizing the obtained results to people from other cultures—especially as research results show that fatalism is conceptualized in different ways by people belonging to different cultures.

In summary, our study extends what is known about the relationship between extraversion, self-esteem, and fatalistic time perspective. The results of the current study indicate that, as far as self-esteem is concerned, what is important for introverts is the belief that the future is, to some degree, beyond human control.

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## Disclosure statement

Authors declare that they have no conflict of interest.

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# Appendix

**Table A.** Example descriptions of the state time perspectives to be induced.

| | Description |
|---|---|
| Fatalistic time perspective | Jan/Anna has recently talked to his/her friends about time. Each of the participants in the conversation thought about what attitude they had toward time. Some said they lived mainly in the past and in the world of memories; others admitted that they preferred to plan for the future; still others said that the present was the most important for them. Jan/Anna said he/she usually lived by what the moment brought. He/she believes that "you cannot escape what is destined to happen to you," so there is no point in giving too much thought to plans and to setting goals because life will take its course anyway. Moreover, doing various activities that involve thinking about results and ends deprives you of all the joy these activities could give you. Jan/Anna believes his/her life to be determined by many different factors that he/she has next to no influence on. Consequently, there is no point in worrying about the future, since you cannot possibly change it. Jan/Anna evaluates his/her actions in the present as having little influence on what will happen in the future—especially as a stroke of luck often gives you more from life than hard work does. Such, quite simply, is human life and destiny. Therefore, according to Jan/Anna, it is better, for example, to use all you have at a given moment for your own pleasure than to put it off until an unknown future. |
| Neutral | Jan/Anna has recently talked to his friends about shopping. Each of the participants in the conversation wondered what criteria they were guided by when choosing particular products in a store. Some said that what was decisive for their choice of a particular product was its quality; for others, the choice of a trusted brand was the most important; still others admitted that they would rather buy products at a reasonable price. Jan/Anna believes that his choices of various things in shops are determined by many factors, but the decisive one is the quality of the product. He/she thinks that even if people believe the best choices of products to be those based on a well-known brand or low price, nothing can compare with an item that is well made and will serve you for a long time: one that you can rely on. The situation is similar when it comes to buying food—it is worth investing in foodstuffs that are tasty and safe for your health. It is not always the case that a well-known product brand guarantees the best quality product. The situation is similar with low price—making purchases only on the basis of low cost is a vicious circle because sooner or later you will have to increase expenditure on items that are flimsy and serve you for a short time only. Therefore, it is better, for example, to buy what is high quality rather than be guided by the advantages of a given brand or by the low price of the product. |