

Belief in Free Will, Determinism and Self-Discipline among Migrating Students

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ABSTRACT

This study investigates the relationship between belief in free will (BFW) and self-discipline in migrating students in India. It explores whether BFW can impact self-discipline in individuals. The study followed a survey method and the sample comprised of students between the age of 18-25 who had migrated to a different city/state for education purposes (N=100). The gathered data was analyzed using Pearson correlation and Linear regression analysis. The results indicated that BFW significantly correlated with level of self-discipline among migrating students. Furthermore, the regression analysis illustrated that BFW significantly impacted the levels of self-discipline in migrating students. These findings highlight how BFW could be one of the contributing factors in facilitating higher levels of self-discipline. It adds to the existing pieces of evidence that emphasize the benefits of inculcating BFW.

Keywords: *Belief in Free Will, Determinism, Self-Discipline*

Self-discipline:

In fast-paced times where being successful is heavily emphasized, it is intriguing to dissect the qualities that foster "success". One such quality that is pressed upon in academic circles, especially among amateur budding academicians is that of 'self-discipline'. In lay terms, it could reflect on an individual's ability to inhibit temptations, control one's actions, engage in hard work, persevere and maintain goal-directed behaviour. Self-discipline becomes an essential quality as it facilitates one to engage in effective learning, acquiring new skills, and building personally desirable habits- all contributing to a content and satisfying life.

Self-discipline was found to be a key predictor of academic achievement (Tuckman & Kennedy, 2011) and success in the workplace (Parker, et.al., 2010). It was found that helping students develop self-discipline strategies aided them in bettering their academic achievement, health behaviours, and financial outcomes (Parker, et.al., 2010). Studies indicate that self-discipline is an important indicator of success across a range of domains:- education, work, and personal health and well-being (Tuckman & Kennedy, 2011; Parker,

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et.al., 2010). Duckworth, et.al., (2019) in a longitudinal study found that those who demonstrated higher levels of self-discipline in adolescence tend to achieve higher levels of education, earn higher salaries, and have better health outcomes in adulthood. According to the study, if adolescents cultivate self-discipline, it could result in enduring advantages for their accomplishments and well-being. (Duckworth, et.al., 2019). The marshmallow studies (Mischel, Shoda, and Rodriguez, 1989) also provide evidence that self-control and delayed gratification are important predictors of future success. It noted that these are skills that could be taught to children. Developing self-discipline may be a promising strategy for improving academic outcomes in adolescence. (Duckworth & Seligman, 2005). Inculcating self-discipline at an early stage could enable children to engage in a fruitful process essential in achieving their goals. There are various models that highlight the components of self-control like The Strength Model of Self-Control (Baumeister 2007), Dual-Process Model of Self-Control (Wilcox, et.al., 2011), The Process Model of Self-Control (Duckworth, et. al., 2014) and thereby venture into the concept of self-discipline, although understanding the sub-components of self-discipline is yet to be thoroughly explored. It was found that motivation is one of the most prominent predictors of self-discipline (Hofmann, W., 2012). Ryan & Deci, (2000) found that it is essential to have a sense of autonomy to enhance one's intrinsic motivation. The concept of autonomy intertwines various developmental processes like styles of attachment, intrinsic motivation, integration of emotions, etc. Additionally, it was also seen that self-determination and responsibility constitute to be an important part of self-discipline (Tangney, Baumeister, et.al., 2004; Duckworth and Seligman, 2005)

Belief in free-will (BFW):

Free will is closely associated with the concept of self-determinism and autonomy (Watson. G., 1987). BFW or determinism seems to form the core of most of our philosophical and psychological arguments, whether in fields of hard sciences like physics or soft sciences of humanities and social studies. Whether one chooses what one does or is it pre-determined? Whether one has any control or is it all an illusion? Exploring these aspects could impact fields of criminology, morality, ethics, justice, law, anthropology, and a major chunk of behavioral sciences. It also germinates as a root in the area of research, where believing in determinism could align with a positivistic point of view assuming that there can be only one truth or one future in a particular space and time. Determinism assumes that all actions are as a result of causation whereas free will is bound to assume that actions are independent of any causal factors. (Ryan, et.al., 2015). Although, multiple attempts at trying to understand whether free will really exists have provided clusters of contradictory results because such concepts belong to the philosophical realms are of a metaphysical kind and determining these could go beyond the scope and jurisdiction of empirical search. Although, empirical analysis could be made of whether laymen's BFW or not and what implications such beliefs would have. Numerous studies have indicated that when an individual's BFW is manipulated and lowered, it may lead to an increase in undesirable behaviors such as cheating (Vohs & Schooler, 2008) and aggression (Baumeister, et al., 2009; Zhao, et.al., 2014). Low BFW could also trigger feelings of alienation (Seto & Hicks, 2016). In addition, it has been suggested that a reduced BFW could be linked to a decrease in prosocial behaviors such as helping and perception of gratefulness (MacKenzie, et al., 2014). It was also noted that low BFW led to diminishing of perceived meaningfulness of life (Moynihan, et al., 2019). Nahmias, (2018) noted that denying free will can have negative consequences for moral motivation and accountability.

Two contrasting views exist on whether BFW or determinism can co-exist- some understand it to be two poles of a spectrum and others construct these beliefs to be independent of each

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other (Nahmias, Morris, et.al., 2006; Knobe & Nichols, 2008). Not a lot of light is shed on what drives one to BFW which although some studies suggest that factors including moral and ethical considerations, social and cultural norms, and individual differences in psychological traits and attachment styles could influence individuals' BFW (Sripada, et.al., 2019).

Deriving the relationship between BFW and self-Discipline:

Two important distinctions that are essential to this study are the distinctions between:

1. BFW and internal locus of control
2. self-discipline and self-control.

Delving into the former, it was noted that there exists a dense intersection between BFW and locus of control but BFW leans towards an attitude one has towards freedom, autonomy, and the ability to make choices. In contrast, locus of control could be classified as a trait of personality (Waldman, et.al., 1983, Paulhus & Carey, 2011). Rigoni, et.al., (2013) found that manipulating BFW had a specific effect on brain activity related to preconscious motor preparation, whereas locus of control did not have a significant effect.

While exploring the differences between self-control and self-discipline, it was found that there exists a fair amount of intersection between self-control and self-discipline (Hagger, et.al., 2018) but they are, at the same time, two distinct concepts. The term self-control pertains to the capacity to withstand immediate urges or desires, while self-discipline pertains to the capacity to persistently engage in activities that are consistent with long-term objectives and principles. (Duckworth & Seligman, 2005, p. 1092). Self-discipline involves perseverance and proactive effort, while self-control involves reactive restraint and inhibition (Duckworth & Kern, 2011, p. 444). Another distinction that was noted was that self-control would not require high effort and is fairly automatic in nature (Gillebaart & de Ridder, 2015) whereas conscious and deliberate efforts are a prerequisite for self-discipline (Duckworth and Seligman, 2006). Self-discipline appears to be a stronger predictor of long-term goal pursuit, while self-control may be more closely related to inhibition and short-term self-regulation. Tangney, et.al. (2004) argue that self-discipline may be a sub-component of self-control but there also exists evidence that highlights that self-discipline could be a better predictor of academic achievement compared to self-control and this could vary at different developmental stages. (Duckworth, et.al., 2010, Zimmerman & Kitsantas, 2014).

One of the most essential components of feeling that one has freedom was the ability to be able to persevere and achieve a long-term goal. In lay terms, the ability to make choices rationally and to be able to exert control over oneself are important aspects of feeling free (Baumeister, 2008).

The Present Study

The goal of the present study is to understand whether BFW could impact an individual's level of self-discipline. To measure the BFW, FAD-Plus Scale (Paulhus & Carey, 2011) was administered. This scale measured the BFW and related concepts namely Scientific Determinism, Fatalistic Determinism, and Unpredictability. The scale aligns with the assumption discussed earlier, prompting that these beliefs are compatible with one another i.e., these beliefs can co-exist. For the purpose of this study, free will is defined as "the ability of individuals to make choices that are not determined by factors beyond their control" (Paulhus & Carey, 2011). Scientific determinism refers to the belief that internal factors like genetics and external factors like society and the process of socialization both

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affect the individuals' choices and actions (Paulhus & Carey, 2011). Fatalistic determinism is the belief that one's actions and choices are solely a result of external forces e.g., fate. The concept of unpredictability highlights that individuals' actions and behaviors are absolutely random and cannot be predicted at all (Paulhus & Carey, 2011). The study explores the correlation of these 4 constructs with the construct of Self-Discipline. To measure the level of Self-Discipline among college students, the Self-Discipline Scale (Şimşir & Dilmaç, 2021) was administered. Şimşir & Dilmaç, (2021) highlight the need to develop a scale that focuses on the concept of self-discipline. They draw a difference between self-control and self-discipline and propose the need for having more reliable and valid scales to measure the level of self-discipline, while not merely overlooking it as a sub-component of self-control. The researcher aimed to understand self-discipline in the context of young adults who border on the verge of being independent in terms of their day-to-day living and are not under the direct supervision of their primary caregivers/ guardians. Therefore, students who have migrated to another state/city for academic pursuits and are residing away from their caregivers were chosen. This population was chosen to enhance the participants' relatability to the questionnaire. Furthermore, both the chosen questionnaires were standardized on the undergraduate and postgraduate student population, adding to the reliability of the data.

METHODOLOGY

Aim: To understand if BFW is related to the level of self-discipline of an individual and if one could have an influence on the other.

Objectives

- To study the relationship between BFW and self-discipline among migrating college students.
- To understand if other constructs related to free will (scientific determinism, fatalistic determinism, and unpredictability) have any significant relationship with the Level of self-discipline among migrating students.
- To study if BFW has an impact on the level of self-discipline among migrating college students.

Hypothesis

- H₀₁: There is no significant relationship between BFW will and the level of self-discipline among migrating college students.
- H₀₂: There is no significant relationship between constructs related to free will viz. scientific determinism, fatalistic determinism, and unpredictability, and the level of self-discipline among migrating students.
- H₀₃: BFW has no significant impact on the level of self-discipline among migrating college students.

Population, Sampling and Data Collection

The population chosen for this study was students between the ages of 18-25 years. The inclusion criteria were: Males or Females who are currently pursuing an academic course/degree, who have migrated to a different city/ town/ state, and who are not living with their primary caregivers/ guardians.

These criteria were selected based on the rationale that students living on their own would be able to readily relate to the self-discipline Scale (Şimşir, 2021) and would not have a direct external authoritative figure (e.g.: parents) influencing their actions. These individuals

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would have some level of autonomy in determining their process of achieving their goals. Students that did not fit the above-mentioned criteria were excluded from the study. Convenient and purposive sampling techniques were used for collecting data which was done using google forms. A form link was circulated to reach out to students from different colleges. Responses that did not meet the inclusion criteria were excluded and a sample size of 100 students - 63 females and 37 males was included in this study.

Assessment Tools

The circulated questionnaires consisted of 4 forms.

1. Form pertaining to informed consent
2. Form gathering the socio-demographic information such as gender, type of family structure, age, qualifications, etc to check for the inclusion and exclusion criteria
3. FAD-Plus scale (Paulhus & Carey, 2011): This scale includes 4 sub-scales namely Free will, Scientific Determinism, Fatalistic Determinism, and Unpredictability (Paulhus & Carey, 2011). This 27-item questionnaire was used to measure individuals' scores on the above-mentioned constructs (measured on a Likert scale that ranges from 1- 'strongly disagree' and 5- 'strongly agree'). The authors distinguish BFW from Internal locus control. The internal consistency and construct validity met the standards and the noted alpha reliability of the sub-scales ranged between .69 and .82.
4. Self-Discipline Scale: This is a 13-item scale (measured on - a 5-point Likert scale that ranges from 1- 'strongly disagree' to 5- 'strongly agree'). This tool was employed to understand the level of self-discipline among individuals. This 13-item scale consists of two components - self-control and responsibility. The scale ensures to draw the distinction between self-control and self-discipline but at the same time highlights the intersection between the two. The internal consistency of the scale was .80 and the Cronbach's alpha coefficient was .85. And the test-retest reliability coefficient was .76.

The measures were administered online, and participants were asked to respond to the best of their ability and be as honest as possible. The measures were chosen for their relevance to the research question. Prior to utilizing the FAD Plus Scale (Paulhus, 2018) and Self-discipline Scale (Şimşir & Dilmaç, 2021), permissions were obtained from their respective authors.

Procedure

To facilitate data collection, the questionnaires were disseminated through Google Forms, and the participants were briefed regarding the aim, method, and variables and were asked for their informed consent. The data was further trimmed using the inclusion and exclusion criteria. The items were scored and coded using Microsoft Excel (2019) as per the provided scoring and norms (Paulhus & Carey, 2011; Şimşir & Dilmaç, 2021). The results were further statistically analysed for descriptive statistics, Pearson-correlation coefficient and linear regression analysis using IBM Statistical Processes for Social Sciences software (SPSS 20) and were interpreted in this study.

RESULTS

The purpose of the study was to explore the relationship and impact of BFW and three closely related constructs, (Fatal Determinism, Scientific Determinism, and Unpredictability), on self-discipline in migrating college students. The sample included 100 college students aged between 18 and 25 years, residing in India (N=100; N_{Males} = 37,

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$N_{\text{Females}} = 63$). Data was collected using Google Forms, with the FAD-Plus scale (Paulhus & Carey, 2011) and SDS (Şimşir & Dilmaç, 2021) as the assessment tools. After collecting the data, it was entered into Microsoft Excel and later exported to SPSS 20 for statistical analysis.

Table 1: Measures of Central Tendency and Dispersion – BFW, Fatalistic Determinism, Scientific Determinism, Unpredictability and Self-Discipline.

Variable	Mean	Standard Deviation
Free Will	25.21	3.809
Scientific Determinism	22.69	3.776
Fatalistic Determinism	15.18	3.523
Unpredictability	25.08	4.541
Self- Discipline	44.19	7.618

Note: $N = 100$

Descriptive statistics for five variables were computed where $N = 100$ participants were included. The variables included BFW ($M = 25.21$, $SD = 3.81$), Scientific Determinism ($M = 22.69$, $SD = 3.77$), Fatal Determinism ($M = 15.18$, $SD = 3.52$), Unpredictability ($M = 25.08$, $SD = 4.54$), and Self-Discipline ($M = 44.19$, $SD = 7.62$) as presented in table 1. Overall, the sample displayed moderate scores across all domains.

Table 2: Coefficients of Pearson Correlation between BFW, Scientific Determinism, Fatalistic Determinism, Unpredictability and Level of Self-Discipline.

	Free Will	Scientific Determinism	Fatalistic Determinism	Unpredictability	Self-Discipline
Free Will	1	.212*	.313**	.395**	.213*
Scientific Determinism		1	.273**	.314**	-.106
Fatalistic Determinism			1	.523**	.065
Unpredictability				1	.014
Self- Discipline					1

Note: $p < 0.05$, **. 0.01 levels (two-tailed).

From Table 2 it can be noted that BFW was positively and significantly correlated with self-discipline ($r = .213$ and $p < .05$). However, there was no statistically significant correlation between the three closely related constructs (scientific determinism, fatalistic determinism, unpredictability) and Self- Discipline. Therefore, this is indicative of H_{01} (There is no significant relationship between BFW and self-discipline in migrating college students) being rejected. The results also highlight that there is no significant relationship between the other related concepts of free will (scientific determinism, fatalistic determinism and unpredictability) and self-discipline, indicating that H_{02} is accepted.

Table 3: Linear regression to assess the impact of BFW on Level of Self-discipline in migrating students.

Predictor Variable	β	SE	t-value	R^2	Adjusted R^2	F
Constant	-	5.032	6.648	.045	.036	4.659
Belief in Free Will	.213	.197	2.158			

Note: $p < 0.05$ *, Dependent Variable – Self -Discipline

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For the variables BFW and level of self-discipline the obtained R-square value .045, the F value was 4.659. It was noted beta value was .213 and the sig. value was 0.033 which is less than 0.05 indicating that there is a significant impact of BFW on the level of self-discipline, as reported in Table 3. This indicates that altering the levels of individuals' BFW impacts the individuals' level of self-discipline in migrating students, thus providing evidence that H_{03} is rejected. According to this model, a 4.5% variance is observed, therefore indicative of a .213 change in levels of self-discipline when there is a level change in BFW (table 3).

DISCUSSION

The aim of the present research was to assess whether there exists a relationship between BFW and the self-discipline level among migrating students and if manipulating one can have an impact on the other. The study followed the self-report survey method where data was collected from students who have migrated for academic pursuits. The population was explored based on the rationale that students living on their own would be able to readily relate to the self-discipline scale (Şimşir & Dilmaç, 2021) and would not have a direct external authoritative figure influencing their actions. These individuals would have some level of autonomy in determining their process of achieving their goals, especially keeping the cultural context in mind. Table 2 indicates a significant positive correlation between BFW and the level of self-discipline among migrating students in India. Furthermore, the results on of the regression analysis indicate that altering the levels of an individual's BFW could impact the level of Self-Discipline among migrating students. The results are supported by interpretatively synthesizing two of the previously mentioned studies viz. the experimental study conducted by Rigoni, et.al. (2012), which demonstrated that the perception of one's self-control and conscious inhibition of impulses were lowered by exposing individuals to 'no-free will' statements and the model proposed by Tangney, et.al. (2004) on understanding self-discipline as a component measured under the construct of self-control. Baumeister, et.al. (2009) pointed out that one's BFW could affect their level of personal responsibility and accountability. According to Şimşir & Dilmaç, (2021), responsibility and self-control constitute two important components of Self-Discipline. Syllogistically, the two aforementioned studies (Baumeister, et.al. 2009; Şimşir & Dilmaç, 2021) support the current findings. There exist contradicting arguments that believing in free will or deterministic perspectives belongs to the metaphysical realms and it is yet in question whether manipulating those could affect voluntary or partially-voluntary actions (Rigoni, et.al., 2011). This study pays a small contribution to this argument. This study posits that believing that one is responsible for their actions and therefore their accomplishments or failure could add to one's intrinsic motivation to be focused toward the set goal compared to believing in fate or relying on one's genetics or process of socialization to determine one's future.

Implications and Suggestions

Self-discipline is a sought-after quality, especially in educationalist circles. The results contribute to understanding the wider metaphysical realms that could contribute to the interventions to develop this quality in young adults. One hurdle to jump is that the question of manipulating free will in itself becomes a paradox - where the ability of being able to manipulate it, itself could negate its existence. Although, since its metaphysical existence cannot really be determined with utmost accuracy, building smaller systems especially those that are academic in nature that do create an atmosphere that instills BFW will could help inculcate self-discipline in young adults. Building smaller systems where BFW is inculcated would not rob the individuals of their autonomy to believe otherwise in their larger realms of beliefs. Ewusi-Boisvert & Racine, (2018) reported that BFW could only be decreased while

manipulating however, this was systematically countered by O Genschow, et.al., (2021) who notes that BFW could be manipulated by enhancing or diminishing it in a variety of ways. Furthermore, Shariff et. al. advise that anti-free will views should be presented with caution for they can promote anti-social activities among individuals (2014) and the findings of this study further support the notion that BFW can yield numerous benefits, both for individuals and for society as a whole, as evidenced by the existing body of research. Although, the present study provides preliminary aid in understanding the influence (as reflected in Table 3, predictor variable- BFW) and directionality of the relationship between BFW and self-discipline levels, it is focused on young adults, and developing self-discipline in the formative years (early and late childhood) can be far more beneficial, therefore a study pertaining to that age group could help understand that demographic better. The study focuses purely on 2 components of self-discipline but self-discipline could be a wider concept with more dimensions that could be explored further. People's idea of free will, unlike other traits, is a covert belief, and cannot be directly and overtly observed therefore better methods to evaluate such beliefs could be devised. The study could further be explored using other research designs to solidify the results.

Overall, this study provides evidence that BFW is significantly positively correlated with the level of self-discipline and emphasizes that altering one's BFW could aid in increasing their levels of self-discipline. It aligns with the views that believing in free will could have certain positive impacts on individuals' personal and social life.

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Conflict of Interest

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