

Research Article

Niharika Lakhote*, Kairavi H. Gokani, Priyanka H. Vora, Kedar N. Ganla, Manisha Joshi

Psychological factors influencing oocyte donation: A study of Indian donors

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Abstract

Background – Infertility is a significant global health issue, particularly in developing nations, where oocyte donation has become crucial for women facing poor oocyte quality.

Understanding the psychological factors influencing Indian oocyte donors, including personality traits, emotions, and motivations, can provide insights into their experiences and behaviors.

Aims – This study aims to investigate the relationship between personality traits, emotions, and motivations of Indian oocyte donors, with a focus on identifying key predictors of their motivation and the impact of emotions on their donation experience.

Methods – A cross-sectional, interview-based study was conducted with 178 first-time oocyte donors from a private fertility clinic. Data were collected using the Big Five Inventory-10 to assess personality traits, the Positive and Negative Affect Schedule for emotions, and the Situational Motivation Scale to measure motivation types. Multiple regression analyses were used to determine predictors of motivation, and correlational analysis examined the relationships between emotions, personality traits, and motivation.

Results – Positive emotions correlated with intrinsic motivation ($r = 0.37, p < 0.01$) and identified regulation ($r = 0.24, p < 0.01$). Negative emotions correlated negatively with these motivations and positively with amotivation ($r = 0.31, p < 0.01$). Conscientiousness was associated with identified regulation and amotivation. Positive emotions predicted intrinsic motivation ($B = 0.09, p < 0.01$) and identified regulation ($B = 0.03, p < 0.05$).

Conclusions – The study highlights the role of positive emotions and personality traits like conscientiousness in motivating oocyte donors. Understanding these factors can

develop targeted support and counseling strategies to improve donor experiences and motivation. This research provides valuable insights into the psychological dynamics of Indian oocyte donors.

Keywords: personality traits, emotion, motivation

1 Introduction

Infertility is a global health issue ranked fifth on the list of serious global disabilities with a negative impact on the self-esteem of those affected [1]. According to a trend analysis of infertility worldwide [2], South Asian, Middle Eastern, and North African countries have the highest rates of infertility, both primary and secondary in recent years. In the same analysis, women were also noted to have higher rates of infertility than men.

Oocyte donation, given these trends in infertility, has become an essential addition to *in vitro* fertilization (IVF) for women with poor oocyte quality and/or quantity [3]. Oocyte donors are categorized as (i) known and (ii) anonymous, who are either commercial or altruistic [4].

An exploration of Caucasian oocyte donors' motivation has concluded that motivation to donate arises from wanting to help others as a primary motivating factor; financial compensation as motivation had degrees of importance but was always secondary to wanting to help [5]. A study of French sperm and oocyte donors also discovered that all the oocyte donors were motivated by altruism [6].

In the case of South African donors [7] they receive fixed-amount compensation, and for them wanting to help others is a strong motivator. In an early examination [8] of Indian oocyte donors' motivation; 72% of the participants were donating oocytes out of financial need while 24% were motivated by both financial compensation and wanting to help others. The desire to help may stem from the stigma around childlessness in India [8]. Women in India may be donating for financial need due to the large socioeconomic divide in the country [9].

However, Assisted Reproductive Technology (Regulation) Bill 2020 [10], oocyte donation in India is voluntary, and donors do not receive financial compensation. In India,

* Corresponding author: Niharika Lakhote, Department of Reproductive Medicine, Ankoor Fertility Clinic, Mumbai, India, e-mail: niharikalakhote@gmail.com

Kairavi H. Gokani, Priyanka H. Vora, Kedar N. Ganla, Manisha Joshi: Department of Reproductive Medicine, Ankoor Fertility Clinic, Mumbai, India

oocyte donors are anonymous, and assisted reproductive technology (ART) banks are required to keep their identities strictly confidential. In addition to this, the ART banks are solely responsible for supplying oocytes to the recipients, meaning donations are non-directed. Indian donors are also not informed about any potential outcomes of their donations. Given the change in the regulation with regard to financial compensation, the present study is interested in examining certain psychological aspects of oocyte donors that may act as determinants of motivation, namely personality traits, and emotions measured post-donation. It also studies the *orientation* of motivation, i.e., type of motivation. The study is interested in the orientation due to the restrictions placed on oocyte donation in India, and to understand what type of personality, as well as what type of nuanced motivation is experienced in this situation.

The current study aims to: (a) explore the demographic data of oocyte donors, (b) investigate the relationship between personality type, emotions, and motivation to donate oocytes, and (c) add to the review of literature on Indian oocyte donors. With its unique cultural context, large population, and importance given to family structures, it is essential to know the oocyte donors and understand their experiences, behaviors, and motivations. In addition to the current focus of this research being a rarely investigated aspect, oocyte donors in India often do not have access to psychological consultations as it is not mandatory in India. This implies that the psychological profile of Indian donors is a largely unknown factor. Hence, this study explores the personality traits, emotions, and motivations of Indian oocyte donors, while creating a profile of a typical donor. On this basis, the study hypothesizes: (a) oocyte donors who experience identified regulation feel more positive emotions and (b) oocyte donors are open to experiences and agreeable.

2 Methods

This is a cross-sectional, interview-based study. A cross-sectional design and interviewing were both selected to get the highest complete responses; with longitudinal studies, participants tend to drop out and the interviewer administering the questionnaire can ensure better participant understanding and complete responses. The present study was conducted in accordance with the tenets of the Helsinki Declaration. Ethics approval for the present study was granted by the Balaji Independent Ethics Committee (CDSCO Reg. No: ECR/321/INDT/TN2020) on the 28th of February, 2024.

The present study makes use of several inventories (see Section 2.2) designed to measure psychological aspects of the oocyte donors, such as personality, type of

motivation (to donate), and what emotions they experienced post-oocyte donation. The study also collects demographic information and oocyte donation-related questions (see Section 2.2). The questionnaire is made up of closed-ended, measurable items to allow for the collection of all the necessary information from the participants.

2.1 Participants

A total of 178 participants were recruited from a private fertility clinic in Mumbai, India from March 2024 to June 2024. A total of 200 oocyte donors were invited to participate in the study who were due to come to the clinic post-donation for a follow-up appointment. The inclusion criteria were: (a) cis women, (b) between the ages of 24 and 32 years, and (c) who have donated oocytes only once. Prospective donors were excluded from the study. Assisted Reproductive Technology (Regulation) Bill 2020 [10], oocyte donors must be (a) between 23 and 35 years of age, (b) donate only once in their lifetime, and (c) be an ever-married woman with at least one live child. The inclusion criteria for the study were based on the clinic's recruitment policy. For the fertility clinic in question, oocyte donors are recruited on the basis of their age, oocyte quality, and overall health, provided they meet the base requirements set by the legislation. Mumbai, being a metropolitan city in India, consists of a diverse population of people from all over the country. Thus, the sample collected can be considered representative of urban, young, Indian population. The participants are first-time donors, interviewed post-donation. They were asked to participate in the study – and subsequently interviewed – when they were at the fertility clinic for their check-up post-donation, i.e., within a month of the oocyte retrieval process. No remuneration was offered to the participants for the study.

Informed consent: Informed consent was obtained from the participants; prospective participants were explained what kind of questions they would have to answer, that their answers would be anonymous and confidential, that their responses would not be shared with anyone outside the project, and that their decision to participate or not participate in the study would not affect their relationship with the fertility clinic.

Ethics approval: The research related to human use has been complied with all the relevant national regulations and institutional policies and in accordance with the tenets of the Helsinki Declaration and has been approved by the authors' institutional review board or equivalent committee (Balaji Independent Ethics Committee).

2.2 Materials

The survey includes several psychological instruments (see Appendix B), as described below, as well as demographic information, i.e., age, marital status, number of children, education level, employment status, and annual household income.

2.2.1 Big five inventory-10 (BFI-10)

The Big Five Inventory-10 [11], is a short version of the Big Five Inventory-44 [12], consisting of 10 items. The scale measures the five broad dimensions of personality. The theory considers each trait as a spectrum with two extremes; an individual may fall anywhere on the spectrum. The inventory measures the following traits:

- Extraversion: An individual may be reserved and quiet, or outgoing and sociable.
- Agreeableness: One may be more friendly and trusting, or more suspicious and uncooperative.
- Conscientiousness: Individuals who score high on this trait are disciplined and organized; those who score lower are impulsive and unorganized.
- Neuroticism: Having a higher score on neuroticism indicates an anxious and pessimistic personality, while a low score indicates a calm and confident one.
- Openness to experience: An individual who is open is imaginative and spontaneous.

The BFI-10 consists of statements that the participant must rate on a Likert scale of 1 to 5, 1 being “disagree strongly” and 5 being “agree strongly.” The statements include “I see myself as someone who does a thorough job” and “I see myself as someone who tends to be lazy.” Each personality trait has two items each. The retest reliability of the BFI-10 is 0.75 [11].

2.2.2 Positive and negative affect schedule (PANAS)

Watson et al. [13] developed the PANAS, consisting of 20 items. It is a self-report questionnaire designed to measure positive and negative emotions. Participants are asked to rate emotions such as “proud,” “guilty,” “excited,” and “ashamed,” on a Likert scale of 1 to 5, 1 being “very slightly or not at all” and 5 being “extremely.” Both positive and negative emotions have 10 items each. Cronbach’s α for positive and negative affect subscales is 0.90 and 0.91, respectively [14].

2.2.3 Situational motivation scale (SIMS)

The SIMS was designed by Guay et al. [15] to measure intrinsic motivation and identified regulation, external regulation, and amotivation. Identified regulation and external regulation are considered forms of extrinsic motivation; identified regulation, on a continuum, is considered closer to intrinsic motivation. Intrinsic motivation arises when performing an activity for the pleasure gained; However, true intrinsic motivation is difficult to find in practice.

External regulation means motivation due to external factors such as rewards or punishments; identified regulation is motivation for behavior that an individual “identifies” with and is important to them; and amotivation is the lack of any drive or interest in a particular activity [15]. The scale consists of 16 items, rated on a Likert scale ranging from 1 to 7. Each kind of motivation, i.e., intrinsic, identified regulation, external regulation, and amotivation, has four items each.

The scale asks: “Why are you currently engaged in this activity?,” and there are statements such as “Because I am supposed to do it” and “Because this activity is fun.” The participant must rate each statement according to the extent to which it corresponds to their situation. The Cronbach’s α for the subscales of the SIMS ranged from 0.76 to 0.91 [14]. The scale is particularly relevant for the present research, as it focuses on situational motivation, i.e., motivation experienced by an individual when they are performing a particular activity [16]. While the motivation cannot be measured at the exact moment of the activity of oocyte donation, participants were administered the instrument at the earliest opportunity to reduce the risk of recall bias and to measure motivation as accurately as possible.

Participants receive a score on each subscale of the inventory; for instance, a participant may score high on both identified regulation and external regulation. Motivation is a complex, nuanced topic, and therefore so are the responses of the participants on such a questionnaire.

2.3 Statistical analysis

All statistical analyses were performed using IBM SPSS v29. Descriptive statistics and frequencies were calculated for all the variables, to understand the sample. Correlational analysis was performed to examine the relationship between motivation and emotions. Multiple regression analyses were carried out with motivation as the outcome variable, and personality and emotions as the predictor variables (independent). The multiple linear regression analyses were performed to understand what predicted motivation in the sample population.

Table 1: Correlation matrix

	PANAS_P	PANAS_N	BFI_Extraversion	BFI_Agreeableness	BFI_Conscientiousness	BFI_Neuroticism	BFI_Openness	Intrinsic	Identified	External	Amotivation
PANAS_P	1										
PANAS_N	-0.07	1									
BFI_Extraversion	0.28*	-0.30	1								
BFI_Agreeableness	0.12	-0.00	0.01	1							
BFI_Conscientiousness	0.16*	-0.21**	-0.17*	0.02	1						
BFI_Neuroticism	-0.22*	0.27**	-0.27**	0.08	-0.10	1					
BFI_Openness	0.19*	-0.04	0.20*	0.02	0.08	-0.26**	1				
Intrinsic	0.37**	-0.20**	0.07	0.04	0.01	-0.16*	0.13	1			
Identified	0.24**	-0.19*	0.03	0.13	0.09	-0.01	0.08	0.52**	1		
External	-0.02	-0.05	-0.19*	0.06	0.14	0.15*	-0.04	0.10	0.34**	1	
Amotivation	-0.12	0.31**	-0.05	0.03	-0.14	0.13	0.02	-0.01	-0.06	0.31**	1

* $p < 0.05$, ** $p < 0.01$.

3 Results

3.1 Relationship between motivation, personality traits, emotion

The correlational analysis (see Table 1) aimed to explore the associations between personality traits, positive and negative emotions, and motivation among oocyte donors. Positive emotion demonstrated a significant positive correlation with intrinsic motivation (0.37, $p < 0.01$) and identified regulation (0.24, $p < 0.01$). Additionally, positive emotion exhibited significant positive correlations with extraversion (0.28, $p < 0.01$), conscientiousness (0.16, $p < 0.05$), and openness to experience (0.19, $p < 0.05$), while neuroticism displayed a significant negative correlation (-0.22 , $p < 0.01$) with positive emotion.

Negative emotion was found to have significant negative correlations with intrinsic motivation (-0.20 , $p < 0.01$) and identified regulation (-0.19 , $p < 0.05$); conscientiousness (-0.21 , $p < 0.01$) was also negatively correlated, while neuroticism displayed a positive correlation (0.27, $p < 0.01$) with negative emotion. Amotivation was positively correlated (0.31, $p < 0.01$) with negative emotion in the sample.

3.2 Predicting motivation

The multiple regression analyses (see Tables 2–4) revealed that positive emotion significantly predicted both intrinsic motivation ($B = 0.09$, $t = 5.03$, $p < 0.01$) and identified regulation ($B = 0.03$, $t = 2.86$, $p < 0.05$) in the sample. From the F -change statistics (intrinsic motivation = 5.63, identified regulation = 2.85), it is noted that personality traits contributed to the prediction, no significant effects were noted in the present analysis.

In the case of amotivation, negative emotion scores acted as predictors ($B = 0.07$, $t = 3.74$, $p < 0.01$). No significant predictors were noted in the present analysis for external regulation (see Appendix A). This is unsurprising, considering that external regulation means to be motivated by external factors only and thus should not be predicted by an individual's personality or emotion.

3.3 The donor profile and personality

From the descriptive statistics performed for demographic information of the sample (see Table 5), the median donor in the current study is 27 years old, married, has one child,

Table 2: Multiple regression analysis predicting intrinsic motivation

	<i>B</i>	<i>SE</i>	β	<i>T</i>	<i>R-square</i>	<i>F-change</i>
Intrinsic motivation					0.19	5.63**
PANAS_P	0.09**	0.02	0.38	5.03		
PANAS_N	−0.04	0.02	−0.19	−2.56		
Extraversion	−0.06	0.06	−0.09	−1.14		
Agreeableness	0.00	0.06	0.00	0.00		
Conscientiousness	−0.13	0.08	−0.11	−1.52		
Neuroticism	−0.04	0.06	−0.04	−0.58		
Openness	0.047	0.052	0.067	0.920		

** $p < 0.01$.**Table 3:** Multiple regression analysis predicting identified regulation

	<i>B</i>	<i>SE</i>	β	<i>T</i>	<i>R-square</i>	<i>F-change</i>
Identified regulation					0.10	2.85*
PANAS_P	0.03*	0.01	0.23	2.86		
PANAS_N	−0.03	0.01	−0.19	−2.49		
Extraversion	−0.01	0.04	−0.02	−0.30		
Agreeableness	0.05	0.04	0.09	1.28		
Conscientiousness	0.01	0.06	0.01	0.12		
Neuroticism	0.05	0.04	0.09	1.12		
Openness	0.03	0.04	0.06	0.76		

* $p < 0.05$.

has studied up to the tenth grade (an important milestone in the Indian schooling system), is unemployed, and earns up to INR 3,000,00 annually. According to the descriptive statistical analyses for the BFI-10 (see Table 6), the participants had mean scores of 8.43 and 9.07 (out of 10) on the traits agreeableness and conscientiousness. For the traits extraversion, neuroticism, and openness to experience, the sample seemed to be rather evenly split.

4 Discussion

Given that the majority of donors in the sample are married with children (most likely due to legal requirements), it is possible that personal experiences with motherhood shape their perspectives on donation. Women who have successfully conceived may empathize with those facing infertility and be motivated by a sense of solidarity or

Table 4: Multiple regression analysis predicting amotivation

	<i>B</i>	<i>SE</i>	β	<i>T</i>	<i>R-square</i>	<i>F-change</i>
Amotivation					0.12	3.22*
PANAS_P	−0.02	0.02	−0.08	−1.08		
PANAS_N	0.07**	0.02	0.28	3.74		
Extraversion	−0.03	0.07	−0.04	−0.49		
Agreeableness	0.04	0.07	0.04	0.57		
Conscientiousness	−0.093	0.100	−0.072	−0.937		
Neuroticism	0.028	0.076	0.029	0.363		
Openness	0.052	0.062	0.064	0.841		

* $p < 0.05$, ** $p < 0.01$.

Table 5: Demographic information

	Age	Marital status	No. of children	Education level	Employment status	Annual household income
<i>N</i>	178	178	177	178	178	177
Missing	0	0	1	0	0	1
Mean	27.24	1.47	1.35	4.61	1.67	1.52
Median	27.00	1.00*	1.00	5†	2‡	1§
Std. deviation	2.586	0.899	0.534	1.599	0.470	0.753
Variance	6.690	0.808	0.285	2.556	0.221	0.568

*1 = married, †5 = 10th grade, ‡2 = unemployed, and §1 = up to 3,000,00 (INR).

social responsibility rather than financial gain, as direct compensation for donation is no longer permitted under current regulations [10].

The relatively young median age of donors in this study aligns with global patterns of oocyte donation, where younger women are typically preferred due to better ovarian reserve. However, in the Indian context, younger donors may also experience additional psychological considerations, such as the societal expectations around motherhood and the potential emotional impact of donating genetic material within a culture that places significant emphasis on lineage and inheritance. By framing the demographic characteristics within these socio-cultural and psychological dynamics, the present study highlights the need to further explore the motivations, personality traits, and emotional experiences of Indian oocyte donors.

Based on the regression analysis and the correlation analysis, oocyte donors who experience identified regulation feel more positive emotion, as hypothesized. The majority of the sample had personality traits of agreeableness and conscientiousness (as partially hypothesized), indicating their general demeanor to be friendly, organized, and disciplined. This was similarly observed in a study [6] where French donors scored high on agreeableness. Oocyte donors may benefit from understanding the different factors that influence their motivation. For example, intrinsic motivation and identified regulation have a significant relationship with positive emotional experiences and certain personality traits, such as extraversion.

Recognizing how personality traits influence motivation can be valuable for oocyte donors. For instance, conscientiousness seems to play a role in identified regulation and amotivation, suggesting that donors who are more conscientious may feel more purposeful in their donation and less likely to experience a lack of motivation. The psychological outcomes of all donors involved are substantial and worthy of sustained analysis. These are essential for ensuring their physical and mental well-being. The findings of the present study highlight the relationship of psychological factors such as personality traits and emotions to the nuanced nature of motivation related to the donation of oocytes.

Given the findings of the study, the role of positive emotions in enhancing intrinsic motivation and identified regulation cannot be understated. Donors who experience positive emotions post-donation are more likely to internalize their decision as meaningful and self-fulfilling. This aligns with previous research on Western donors, where a sense of personal satisfaction played a role in their decision-making process. The interplay of personality traits and emotions suggests that individuals with higher levels of extraversion and conscientiousness may be more inclined toward positive donation experiences, reinforcing their motivation.

The shift in India's regulatory landscape regarding oocyte donation, particularly the removal of financial compensation since 2020 [10], presents an important contextual factor. Historically, financial need was a dominant

Table 6: Descriptive statistics for BFI-10 scores

	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
<i>N</i>	178	178	178	178	178
Missing	0	0	0	0	0
Mean	5.83	8.43	9.07	5.22	7.34
Median	6.00	9.00	10.00	6.00	7.00
Std. deviation	2.071	1.850	1.332	1.840	2.121
Variance	4.288	3.422	1.774	3.384	4.498

motivator, as seen in earlier research [8], where 72% of Indian donors cited economic necessity as the primary reason for donation. The findings of this study provide an updated psychological perspective, highlighting that while external incentives are no longer a factor, personality traits and emotional experiences continue to shape donor motivation. The significance of these psychological aspects underscores the need for fertility clinics to consider tailored counseling and support strategies that account for individual differences in personality and emotional responses.

Furthermore, the presence of agreeableness and conscientiousness as dominant personality traits among donors may indicate a broader cultural and social inclination toward structured decision-making and prosocial behavior. This observation is particularly relevant in the Indian context, where social and familial expectations play a crucial role in shaping personal choices. Given the existing stigma around childlessness [8], some donors may perceive their role in the donation process as an act of altruism, even if their initial motivation was multifaceted. This could explain why positive emotions are closely linked with intrinsic motivation and identified regulation, reinforcing the idea that donors who find personal meaning in the process are more likely to have a positive psychological experience.

The findings emphasize the importance of sustained psychological support for oocyte donors, particularly in helping them navigate emotional responses post-donation. Since motivation is intricately linked to emotions and personality traits, structured interventions such as counseling, peer support groups, and tailored psychological assessments could enhance donor well-being. By fostering an environment where donors can reflect on their motivations and emotional experiences, clinics and policymakers can ensure that oocyte donation remains an ethically sound and psychologically rewarding process.

In conclusion, the present study provides valuable insights into the psychological dimensions of oocyte donation, highlighting the interplay between personality traits, emotions, and motivation. The results reinforce the significance of positive emotional experiences in shaping donor motivation and well-being, suggesting that future research should continue exploring these dynamics to better understand the evolving landscape of oocyte donation in India.

4.1 Strengths and limitations

The present study is one of the first ones to examine Indian donors with a relatively large sample size and approach the question quantitatively. It is novel in its exploration of

Indian oocyte donors' personality traits, emotions, and motivation – and the relationship between these aspects.

The present study is novel in exploring psychological aspects of personality traits, emotions, and motivation of Indian oocyte donors, making it a strength, in addition to its large sample size and quantitative method. A major strength of the study is the replicability; the field of oocyte donation research can only benefit from more data on donors' personality, emotions, and motivation.

Data collection via in-person interviews ensured a high response rate, as well as participant understanding. However, the presence of an interviewer may have influenced participants to answer in a socially favorable manner, thus potentially introducing bias. However, unlike many other countries, psychological counseling is neither mandatory nor easily available to the oocyte donors; the opportunity to interact with a professional, even for an interview, may be beneficial for the participants. The time of administering the questionnaire may have introduced a risk of recall bias on the participant's end; however, they were interviewed at the first possible opportunity. The present study would have been strengthened with a larger sample size with participants from the Indian subcontinent.

4.2 Future directions

Providing tailored support based on individual differences could enhance the donation process. This may involve personalized counseling or interventions aimed at addressing specific motivational factors identified in the regression analysis. Strategies such as emotion regulation techniques and counseling can help donors effectively manage any adverse emotions and stress, thereby enhancing their motivation and overall well-being throughout the donation process. Once the oocyte donors are motivated enough, it is an advantageous situation for the recipients, banks, clinics, clinicians, and most of all the donors themselves. This topic can benefit from further research in the South Asian context for more inclusive results. Future studies may find it prudent to examine different psychological aspects in addition to these to add nuance to the body of work already done.

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Appendix A

Table A1: Multiple regression analysis predicting external regulation

	<i>B</i>	<i>SE</i>	<i>β</i>	<i>T</i>	<i>R-square</i>	<i>F-change</i>
External Regulation					0.069	1.803
PANAS_P	0.004	0.015	0.019	0.240		
PANAS_N	−0.011	0.014	−0.065	−0.829		
Extraversion	−0.086	0.049	−0.144	−1.758		
Agreeableness	0.030	0.050	0.045	0.597		
Conscientiousness	0.103	0.073	0.111	1.411		
Neuroticism	0.094	0.056	0.140	1.686		
Openness	0.003	0.045	0.004	0.057		

***p* <0.01, **p* < 0.05.

Table A2: PANAS responses on the item “distressed”

Distressed	<i>N</i>	%
Very slightly or not at all	121	68.0
A little	13	7.3
Moderately	23	12.9
Quite a bit	16	9.0
Extremely	5	2.8

Table A3: PANAS responses on the item “proud”

Proud	<i>N</i>	%
Very slightly or not at all	22	12.4
A little	4	2.2
Moderately	27	15.2
Quite a bit	35	19.7
Extremely	90	50.6

Appendix B

1. Big Five Inventory 10

Instructions: How well do the following statements describe your personality?

I see myself as someone who...	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1. ...is reserved	1	2	3	4	5
2. ...is generally trusting	1	2	3	4	5
3. ...tends to be lazy	1	2	3	4	5
4. ...is relaxed, handles stress well	1	2	3	4	5
5. ...has few artistic interests	1	2	3	4	5
6. ...is outgoing, sociable	1	2	3	4	5
7. ...tends to find fault with others	1	2	3	4	5
8. ...does a thorough job	1	2	3	4	5
9. ...gets nervous easily	1	2	3	4	5
10. ...has an active imagination	1	2	3	4	5

Scoring the BFI-10 scales (R = item is reverse-scored):

Extraversion: 1R, 5

Agreeableness: 2, 7R

Conscientiousness: 3R, 8

Neuroticism: 4R, 9

Openness to Experience: 5R, 10

2. Positive and Negative Affect Schedule

Indicate the extent you have felt this way over the past week	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
Interested	1	2	3	4	5
Distressed	1	2	3	4	5
Excited	1	2	3	4	5
Upset	1	2	3	4	5
Strong	1	2	3	4	5
Guilty	1	2	3	4	5
Scared	1	2	3	4	5
Hostile	1	2	3	4	5
Enthusiastic	1	2	3	4	5
Proud	1	2	3	4	5
Irritable	1	2	3	4	5
Alert	1	2	3	4	5
Ashamed	1	2	3	4	5
Inspired	1	2	3	4	5
Nervous	1	2	3	4	5
Determined	1	2	3	4	5
Attentive	1	2	3	4	5
Jittery	1	2	3	4	5
Active	1	2	3	4	5
Afraid	1	2	3	4	5

Scoring:

Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 to 50, with higher scores representing higher levels of positive affect.

Mean Scores: 33.3 (SD $\pm$ 7.2)

Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 to 50, with lower scores representing lower levels of negative affect.

Mean Score: 17.4 (SD $\pm$ 6.2)

3. Situational Motivation Scale

Why are you currently engaged in this activity?								
1. Because I think that this activity is interesting	1	2	3	4	5	6	7	
2. Because I am doing it for my own good	1	2	3	4	5	6	7	
3. Because I am supposed to do it	1	2	3	4	5	6	7	
4. There may be good reasons to do this activity, but personally I don't see any	1	2	3	4	5	6	7	
5. Because I think that this activity is pleasant	1	2	3	4	5	6	7	
6. Because I think that this activity is good for me	1	2	3	4	5	6	7	
7. Because it is something that I have to do	1	2	3	4	5	6	7	
8. I do this activity but I am not sure if it is worth it	1	2	3	4	5	6	7	
9. Because this activity is fun	1	2	3	4	5	6	7	
10. By personal decision	1	2	3	4	5	6	7	
11. Because I don't have any choice	1	2	3	4	5	6	7	
12. I don't know; I don't see what this activity brings me	1	2	3	4	5	6	7	
13. Because I feel good when doing this activity	1	2	3	4	5	6	7	
14. Because I believe that this activity is important for me	1	2	3	4	5	6	7	
15. Because I feel that I have to do it	1	2	3	4	5	6	7	
16. I do this activity, but I am not sure it is a good thing to pursue it	1	2	3	4	5	6	7	

Codification key: Intrinsic motivation: Items 1, 5, 9, 13; Identified regulation: Items 2, 6, 10, 14; External regulation: Items 3, 7, 11, 15; Amotivation: Items 4, 8, 12, 16.