

Olivet Nazarene University

## Digital Commons @ Olivet

---

Honors Program Projects

Honors Program

---

5-2021

# Time to Stop Worrying: A Correlational Study on Individualist Versus Collectivist Time Perspectives and Anxiety

Anna Waldron

*Olivet Nazarene University*, [aewaldron@olivet.edu](mailto:aewaldron@olivet.edu)

Follow this and additional works at: [https://digitalcommons.olivet.edu/honr\\_proj](https://digitalcommons.olivet.edu/honr_proj)



Part of the [Clinical Psychology Commons](#), and the [Counseling Psychology Commons](#)

---

### Recommended Citation

Waldron, Anna, "Time to Stop Worrying: A Correlational Study on Individualist Versus Collectivist Time Perspectives and Anxiety" (2021). *Honors Program Projects*. 123.

[https://digitalcommons.olivet.edu/honr\\_proj/123](https://digitalcommons.olivet.edu/honr_proj/123)

This Thesis is brought to you for free and open access by the Honors Program at Digital Commons @ Olivet. It has been accepted for inclusion in Honors Program Projects by an authorized administrator of Digital Commons @ Olivet. For more information, please contact [digitalcommons@olivet.edu](mailto:digitalcommons@olivet.edu).

TIME TO STOP WORRYING: A CORRELATIONAL STUDY ON INDIVIDUALIST  
VERSUS COLLECTIVIST TIME PERSPECTIVES AND ANXIETY

By

Anna E. Waldron

Honors Scholarship Project

Submitted to the Faculty of

Olivet Nazarene University

for partial fulfillment of the requirements for

GRADUATION WITH UNIVERSITY HONORS

February 2021

BACHELOR OF SCIENCE

in

Psychology

Kristian M. Vent  
Scholarship Project Advisor (printed)

[Signature]  
Signature

2/17/2021  
Date

Stephen Case  
Honors Council Chair (printed)

[Signature]  
Signature

4.29.21  
Date

Dan Sharde  
Honors Council Member (printed)

[Signature]  
Signature

4/30/21  
Date

## ACKNOWLEDGEMENTS

I would like to thank my mentor, Dr. Kristian Veit, for his wisdom, insight, and direction as I took on a project of this scale. His instruction equipped me to read, analyze, and interpret data independently; I know this skill will be beneficial to me throughout the rest of my life. More than this, I would like to thank him for the encouragement he provided when I needed it most. I am thankful to have gotten the opportunity to learn and grow in an environment such as Olivet's where I was surrounded by compassion, challenged to be my best, and extended grace in my shortcomings. I would also like to thank the Olivet Honors Program for funding this project, as well as their faculty for their dedication to my success and aid in this project's completion. Additional thanks to my beloved family and friends for their interest in and support of this project.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS .....	ii
ABSTRACT.....	v
INTRODUCTION .....	1
REVIEW OF LITERATURE .....	1
Time Perspective.....	1
Individualism vs Collectivism .....	2
Anxiety.....	3
Time Perspective and Individualism v. Collectivism .....	4
Time Perspective and Anxiety.....	4
Significance.....	6
HYPOTHESES .....	7
METHODOLOGY .....	8
Participants.....	8
Materials .....	9
Procedure .....	11
RESULTS .....	12
DISCUSSION .....	15
Limitations .....	17
Future Research .....	17
REFERENCES .....	19
APPENDIX A.....	23
APPENDIX B .....	25
APPENDIX C .....	26

## LIST OF TABLES

Table 1: Frequencies of Ethnicity .....	<b>Error! Bookmark not defined.</b>
Table 2: Descriptives for INDCOL results for each country .....	13
Table 3: Correlation Matrix of Individualism and Future Time Perspective .....	13
Table 4: Correlation Matrix of Collectivism and Past Positive and Past Negative Time Perspective .....	<b>Error! Bookmark not defined.</b>
Table 5: Correlation Matrix of Anxiety .....	<b>Error! Bookmark not defined.</b>

## ABSTRACT

### **Purpose**

Research has indicated a significant relationship between anxiety and time perspective (TP), which is the way one views life in terms of the past, present or future. TP is broken down into five facets based on the Zimbardo Time Perspective Inventory (ZTPI), including past negative (PN), past positive (PP), present fatalistic (PF), present hedonistic (PH), and future (F) time perspectives (Zimbardo & Boyd, 1999). Time perspective is thought to be impacted by one's culture, although there is a lack of representation in studies on TP cross-culturally which makes it difficult to generalize. In order to add to the research on time perspective's relationship to anxiety and to fill the gap on the role of culture in this phenomenon, the variable of individualism was included in this present study.

### **Procedure**

A total of 525 participants were obtained from 22 countries including the United States, India, Brazil, Canada, and the United Kingdom. Upon confirmation of informed consent, we distributed a survey to participants measuring each individual on time perspective, using the ZTPI, individualism, using the Individualism and Collectivism scale (Singelis et al., 1995), and anxiety, using a subcategory of the Sixteen Personality Factor Questionnaire (Goldberg et al., 2006).

### **Results**

We found that individualism showed a positive relationship with F and collectivism showed a positive relationship with PP. Individualism, but not collectivism, correlated positively with anxiety. Lastly, correlations between PN and PF resulted in

positive, significant relationships with anxiety and correlations between PP and F resulted in negative, significant relationships with anxiety. Interestingly, PH showed a significant positive relationship to anxiety which was the opposite of what was hypothesized. This would be a variable to consider for further research.

### **Conclusion**

These results suggest one's outlook on time plays a role in psychological well-being. Implications on culture's role in this phenomenon have also been strengthened by these findings. Though continued study is merited, this information further validates the value that time perspective has in developing interventions for emotional disorders such as anxiety.

Keywords: Time Perspective, Individualism, Collectivism, Anxiety, Cross-cultural

## INTRODUCTION

Time perspective has increasingly been seen to play a central role in many domains of psychology. This present research intends to explore three major variables including time perspective, level of individualism versus collectivism, and anxiety. The sample population anticipated for this study will include participants of various places of origin, including the individualist United States, collectivist Brazil, and moderate India, to gather a sufficient amount of data on what time perspectives are predominant in participants that are more individualistic or collectivistic. Furthermore, we will investigate how these constructs are related to anxiety.

## REVIEW OF LITERATURE

### **Time Perspective**

Time perspective (TP) is the subjective view an individual maintains towards experiences which are presented through their predominant orientation (Zimbardo & Boyd, 1999). In other words, time perspective focuses on whether one views life in terms of the past, present or future and how this may impact daily functioning. This perception has a direct influence on goals, decisions, and behaviors (Akirmak, Tuncer, Akdogan, & Erkat, 2019; Kolesovs, 2005; Shirai & Beresneviciene, 2005; Sircova et.al., 2015). TP is composed of five factors, as outlined by the most common inventory of TP, the Zimbardo Time Perspective Inventory (ZTPI). These five factors are past positive (PP), past negative (PN), present hedonistic (PH), present fatalistic (PF), and future (F) (Zimbardo & Boyd, 1999). PP looks at the past nostalgically and pleasantly, while PN looks at the past with remorse. PH individuals enjoy the present pleasures and sensations while giving little regard to future consequences. PF is indicative of a person who exhibits a feeling of

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

lack of control and hopelessness when viewing the events of the future. F orientation of time is displayed through care and planning for the future by setting goals and trusting they will reach them. Past research has indicated that an inclination toward one TP over others is influenced by a multitude of factors, such as family, education, and culture (Zimbardo & Boyd, 1999); however, little attention has been devoted to particular aspects of culture and their impact on the diversity of temporal orientations (Fulmer, Crosby, & Gelfand, 2014). Specifically, collectivism and individualism have been shown to influence cross-cultural differences in an orientation toward the past, present, and future (Fulmer et al., 2014). Furthermore, TP has been correlated with different facets of well-being and psychological traits such as anxiety, as discussed in more detail below. (Drake et al., 2008; Papastamatelou, Athanasiadou, & Unger, 2015; Sobol-Kwapinska, 2016; Triandis, 2001; Tseferidi, Griva, & Anagnostopoulos, 2017; van Beek, Berghuis, Kerkhof, & Beekman, 2010; Wu, Zhou, Zhao, Qiu, & Guo, 2019).

### **Individualism vs Collectivism**

Individualist cultures are those in which individuals feel self-reliant and dependent on their own assets. These cultures are often faster paced and put more emphasis on individual achievement over social affiliation (Levine & Norenzayan, 1999). Collectivist cultures are centered around a broader community and work towards the good of a society as a whole, rather than a singular individual. These cultures are interdependent and value compromise as part of common practice (Tafarodi & Swann, 1996). That said, it cannot be assumed that all individuals from a predominantly individualist or collectivist culture share all the characteristics of these cultures at all times. In fact, there is a continuum of individualism where people tend to fall to one side

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

of the spectrum over the other depending on the situation (Triandis, 2001). The basis on which we develop our hypotheses on whether countries are more individualistic or collectivistic come from findings of Geert Hofstede, a pioneer researcher on cultural differences, in his Individualism Index breakdown (Hofstede et al., 2010). In this index, on a scale of 0 to 100, the US scores a 91 on individualism, which is among the topmost individualistic countries. India scores a 48, which is at the midpoint of the spectrum, meaning it shares both individualist and collectivistic traits. Brazil scores a 38, which makes it less collectivistic than many other Latin American countries, but still qualifies it as being more collectivistic than individualistic. Canada scores an 80 and the UK scores 89, which indicates these are both high on spectrum of individualism (Hofstede, n.d.).

### **Anxiety**

Anxiety is characterized by a persistent state of worry or fear (Wu et al., 2019). There are two main categories of anxiety, one being state anxiety and the other being trait anxiety. State anxiety is a more transitory reaction to an unfavorable event. Trait anxiety is characteristic of an individual with anxiety as a personality dimension. Someone with this form of anxiety is faced with negative emotions across many situations and frequently (Wu et al., 2019). Throughout this study, it should be assumed that where anxiety is mentioned as a variable, we are referring to trait anxiety. The World Health Organization reports that globally, 1 in 13 people suffer from anxiety; further research, therefore, should be done to better understand the underlying factors that may be driving this malady.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

### **Time Perspective and Individualism v. Collectivism**

Previous research on cross-cultural time perspectives has led to the belief that individualism and collectivism play a role in people's orientation towards the past, present, or future. A future temporal orientation has been seen in Western, individualist cultures where there is an emphasis on one's ability to attain future goals and live competitively (Shirai & Beresneviene, 2005). In contrast, collectivist cultures, including some Asian cultures, tend to live in the moment and give less thought to events in the future (Brislin & Kim, 2003). Other effects of temporal orientation have been seen in attention given to background and context. Fulmer, Crosby, and Gelfand (2014) found that Chinese may hold tighter to the past as background and context for the present, therefore orienting themselves to the past and present. Westerners, on the other hand, feel they have the ability to control what is to come, therefore orienting themselves towards the future. The way time is experienced and conceptualized varies greatly among individualist versus collectivist cultures. However, little attention has been given to the impact of the diversity in TP across cultures (Fulmer et al., 2014). No research studies to our knowledge have looked at the correlations between the five facets of the ZTPI and individualism or collectivism. This adds to the value of further study.

### **Time Perspective and Anxiety**

As mentioned previously, there are five factors to time perspective, as identified by Zimbardo and Boyd's (1999) ZTPI, and each has a unique relationship to the different variables that researchers have correlated them with. It has been demonstrated that specific factors of TP, namely PN and PF, have been correlated negatively with well-being and positively with anxiety (Drake et al., 2008), yet caution must be taken in

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

generalizing these results due to the sample population mainly being made up of college students from a single university in the United Kingdom. Sobol-Kwapinska (2016) studied the relationship between TP and well-being following previous research that suggested temporal orientations influence the feelings individuals have towards life events. Results of this study showed that both PH and PF time perspectives correlated negatively with emotional stability. PN correlated positively with neuroticism, depression, fear, problems in social relations, gambling, negative mood, low self-esteem, and propensity for addiction.

This is partially consistent with Papastamatelou, Athanasiadou, and Unger's (2015) correlational study in which results showed PN and PF perspectives were associated with poor well-being and anxiety; these findings, however, should be taken lightly due to poor representation. The sample population was made up entirely of residents of Greece. Wu and researchers (2018) had a similar correlational study including the analysis of neural mechanisms in brain scans and the concept of a balanced time perspective (BTP). BTP is described as "a mental ability that empowered individuals to be flexible with the employment of their time perspectives, rather than being biased towards a specific time perspective regardless of task, features, situational considerations and personal resources" (Zimbardo & Boyd, 1999; Wu et al., 2018). An individual's level of BTP is measured by finding the deviation of their score on each dimension on the ZTPI and the optimal score for each dimension (Stolarski, 2016); overall, it is a measure of an individual's self-regulation of time perspective. Individuals with BTP had a greater ability to regulate their emotion, and had fewer negative moods such as tension, stress and anxiety (Wu et al., 2018). The behavioral and neuroimaging

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

facets of the aforementioned study suggested that emotional regulation is a critical component of therapy for anxiety disorders. Emotional intelligence was found to be positively associated with PP, PH and F, and negatively associated with PN and PF (Wu et al., 2018). An unbalanced TP is associated with higher levels of anxiety, suggesting that individuals who associate highly with one dimension of the ZTPI (particularly PN and PF) may be at a higher risk for trait anxiety (Wu et al., 2018).

Tseferidi, Griva, and Anagnostopoulos (2017) found that previous research indicated that perceptions of the past, present, and future can affect well-being. This led them to hypothesize that subjective well-being (operationalized as higher life satisfaction scores and lower anxiety and depression scores) will show a positive correlation with PP, PH and F, and a negative correlation with PN and PF. The findings showed that PN and PF had a significantly positive association with anxiety at a  $p$ -value of 0.001. These results are consistent with another study done in a psychiatric context by van Beek and researchers (2010). The study previously mentioned, by Tseferidi and colleagues (2017), supports the idea that well-being and TP are related, while adding to the necessity for replication due to its sample population being entirely made up of Greek citizens. There have been multiple implications that time perspective is relevant to clinical and counseling settings (Sircova et al., 2015; Tseferidi et al., 2017; van Beek et al., 2010), and continued research intends to contribute to the literature on TP as an indicator of well-being, as measured through anxiety.

### **Significance**

When it comes to the influence a cultural aspect, such as individualism, has on an individual's time perspective, there is a lack of robust information. This information

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

would serve useful in growing the body of research on forces that act on one's level of anxiety, an ailment that plagues our society. Each of these three variables seem to be interconnected, since much of past research indicates anxiety and time perspective are correlated; additionally, people who are more or less individualistic tend to lean towards one particular time perspective. In order to enrich the empirical findings on time perspective, culture should be incorporated into the understanding of the nature and origin of temporal dimensions (Fulmer et al., 2014). In order to have reliable and valid results in a study of this nature, it is crucial that the population samples are well-rounded and representative of the world's population as a whole. Yet, past research on time perspective has failed to accomplish this (Akirmak et al., 2019; Fulmer et al., 2014; Sircova et al, 2015; Tseferidi et al., 2017). Some past studies have also indicated a need to increase awareness of time perspective therapy in treating negative emotions (Wu et al., 2018). A greater effort should be made in incorporating time perspective evaluations into clinical settings as it has shown profound implications for intervention of emotional disorders. It has been reported by 75% of participants in a study of time perspective therapy (TPT) that there was an overall reduction of anxiety symptoms (Wu et al., 2018). Van Beek and researchers (2011) found that the ZTPI is effective for diagnosis and intervention of psychopathological disorders, including anxiety. If these findings can be expanded upon through this present study, the validity of these claims would strengthen.

## HYPOTHESES

The aim of the present study is to correct the lack of representation in past research and contribute to the understanding of time perspective as a factor of anxiety. The summation of past relevant research leads us to the following hypotheses:

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

Individualistic participants will have a future time perspective, whereas collectivistic participants will have a past time perspective. Additionally, participants with a tendency towards individualism will display a higher level of anxiety than participants with a tendency towards collectivism. When considering the facets of time perspective and anxiety, it is hypothesized that anxiety will show a positive correlation with past negative time perspective and present fatalistic time perspective, but anxiety will show a negative correlation with past positive time perspective, present hedonistic time perspective, and future time perspective.

## METHODOLOGY

### Participants

The initial number of participants involved in this study was 646 people. After filtering out individuals who had failed the discrimination items, or who did not meet the age requirement of 18 years, we were left with a final number of 525 participants. This pool of people was made up of individuals from the United States ( $N = 361$ ), India ( $N = 125$ ), Brazil ( $N = 9$ ), Canada ( $N = 9$ ), the United Kingdom ( $N = 4$ ), and an assemblage of other countries ( $N = 17$ ). As mentioned before, all participants were required to be above the age of 18, as well as speak the English language. The average age of participants was 34.6 years with a range of 18 to 64 years. The gender of participants was broken up as 52.1% male and 47.9% female, with all but one participant disclosing this information. 55.2% of individuals were White, while the other 44.8% of participants identified their ethnicity as American Indian/Alaska Native, Asian, Black or African American, Hispanic, Latino or Spanish Origin, Middle Eastern or North African, or Other. No participants identified as Native Hawaiian or Other Pacific Islander (see Table 1). Participants were obtained

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

through Amazon Mechanical Turk, a system which allows individuals from all over the world to complete virtual tasks. Participants received a compensation of \$.40 for completing the survey.

Table 1: Frequencies of Ethnicity

Ethnicities	Frequency	% of Total
American Indian/Alaska Native	12	2.3 %
Asian	162	30.9 %
Black or African American	26	5.0 %
Hispanic, Latino or Spanish Origin	27	5.2 %
Middle Eastern or North African	1	0.2 %
White	289	55.2 %
Other	7	1.3 %

*Note.* No participants identified as Native Hawaiian or Other Pacific Islander

### Materials

Each of the variables within this study are operationally defined by scores obtained on each relevant scale. Time Perspective contains five components (past positive, past negative, present hedonistic, present fatalistic, and future) with individuals receiving a score on each component following completion of the Zimbardo Time Perspective Inventory (ZTPI) (see Appendix A; Zimbardo & Boyd, 1999). The ZTPI is made up of 56 items that are answered based on a 5-point Likert scale in which statements are rated based on a spectrum of 1 = “very untrue” to 5 = “very true”. The ZTPI has been characterized as the “gold standard” for research on time perspective and cross-cultural comparisons (Sircova et.al., 2015) and its test-retest reliability measures within the range of 0.70 to 0.80 for each of the five factors. Factor analyses on the ZTPI shows significant relationships between each factor and the items they were expected to

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

represent. Additionally, confidence in the convergent and discriminant validity of the ZTPI was ensured following extensive validity tests run by Philip Zimbardo (Zimbardo & Boyd, 1999). Two sample items from the ZTPI include “I believe that a person’s day should be planned ahead each morning” and “I do things impulsively” (see Appendix A for full list). Individualism and collectivism were measured using the Individualism and Collectivism Scale (INDCOL) which is designed to measure four dimensions of individualism and collectivism including vertical and horizontal individualism and vertical and horizontal collectivism (see Appendix B; Singelis et al., 1995). For the nature of our study, these four dimensions were condensed into two dimensions (individualism and collectivism). This scale consists of 16 items measured on a 9-point Likert scale ranging from 1 = “never” or “definitely no” to 9 = “always” or “definitely yes”. The INDCOL has a test-retest reliability between 0.62 and 0.70, as well as a Cronbach’s alpha between 0.46-0.7, making it considerably reliable (Hui, 1988). Two sample items from the INDCOL include “It is important that I do my job better than others” and “To me, pleasure is spending time with others.” Finally, anxiety is measured through 10-item International Personality Item Pool (IPIP) representation of The Sixteen Personality Factor Questionnaire (16 PF) relating explicitly to trait anxiety (see Appendix C; Goldberg et al., 2006). The items on this scale are answered according to a 5-point Likert scale in which statements range on a spectrum from 1 = “strongly disagree” to 5 = “strongly agree”. The 16PF reliability coefficients range from 0.56-0.79, and it has a Cronbach’s alpha for internal consistency at an average of 0.74 (Rivera, 1996). An example item from the 16PF anxiety scale is “I am afraid that I will do the wrong thing.”

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

Each of the scales used in the present study have been widely used to operationalize the variables being measured.

### **Procedure**

Upon approval from Olivet Nazarene University's Institutional Review Board, data collection began through Amazon Mechanical Turk, the host site for the survey. Upon entering the survey, each participant received thorough instructions and an outline of the study on the first page. This included an informed consent document which detailed the nature and purpose of the project, an explanation of the scales used, any possible discomfort or risks, the benefits to participation, and the confidentiality measures put in place. Each participant was also notified of their right to withdraw from the study at any point with no penalty. The contact information for the researcher, advisor, and Institutional Review Board were included in the case of any concerns or feedback. In order to proceed through the survey, the participant was required to check a box indicating they have read and agreed to the conditions of the study. The scales used to measure the variables of time perspective, individualism, collectivism, and anxiety proceed in the following order, the ZPTI, the INDCOL, and then the 16PF. We attempted to control for dissimulation and response bias by reverse coding certain survey statements and including discrimination items (nonsense items that anyone could answer if they are paying attention). An example of one of these items is "For this response, select 'always.'"

The survey also collected demographic information including age, gender, ethnicity, and country of origin, as well as any additional countries the individual has lived for at least 6 months. This last piece of information offered a more well-rounded

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

understanding of what cultures (predominantly individualist or collectivist) have influenced the individual's time perspective and level of individualism or collectivism (Zimbardo & Boyd, 1999). The four sections of the survey were estimated to take about 15 minutes to complete.

Descriptive statistics were measured through Jamovi, a statistics software program. Following this, each of the correlations being measured, as noted in our hypothesis, were determined through Pearson correlations.

## RESULTS

Included in the methodology are the descriptive statistics of the 525 participants involved in the survey. The mean score for the United States on individualism was 47.6 and on collectivism was 51.2. The mean score for India on individualism was 52.8 and on collectivism was 54.2. The mean score for Brazil on individualism was 45.3 and on collectivism was 51.3. The mean score for Canada on individualism was 55.4 and on collectivism was 52.3. The mean score for the United Kingdom on individualism was 54.9 and on collectivism was 58.5 (see Table 2). Many of these scores remain moderate. An interesting finding is that of the level of individualism in the United States versus India. The United States is noted by Hofstede's research to be highly individualistic, yet moderate India was found to have a higher score. A possible explanation for this is that the United States is known as a melting pot of many different cultures, so there may have been other influencing factors on these individuals. We must also keep in mind that it is difficult to study entire societies, and it is not unique to be presented with different findings when researched by different researchers (Hofstede, n.d.).

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

Table 1: Descriptives for INDCOL results for each country

	US		India		Brazil		Canada		UK	
	IND	COL	IND	COL	IND	COL	IND	COL	IND	COL
<i>N</i>	361	361	125	125	9	9	9	9	4	4
Mean	47.6	51.2	52.8	54.2	45.3	51.3	55.4	52.3	54.0	58.5
Median	48	52	53	54	46	50	55	53	52	58.5
Standard deviation	9.38	11.2	8.09	8.20	5.92	6.54	8.14	10.4	6.16	3.51
Variance	87.9	125	65.5	67.2	35.0	42.8	66.3	109	38.0	12.3
Range	51	64	37	43	19	20	21	33	14	7

*Note.* INDCOL = Individualism and Collectivism Scale, IND = Individualism, COL =

Collectivism

The first question we sought to answer was whether individualistic and collectivistic participants have a predominant time perspective. It was predicted that participant scores on the individualism measure would have a positive relationship with future time perspective. Consistent with our hypothesis, individualistic participants were seen to have a significant, positive relationship future time perspective,  $r(523) = 0.115$ ,  $p < 0.01$  (see Table 3).

Table 2: Correlation Matrix of Individualism and Future Time Perspective

	F
IND	Pearson's $r$
	$p$ -value
	95% CI Upper
	95% CI Lower

*Note.* IND = Individualism, F = Future Time Perspective

*Note.*  $H_a$  is positive correlation

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , one-tailed

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

It was predicted that participant scores on the collectivism measure would have a positive relationship with past time perspective. There are two different components of past time perspective, namely past positive and past negative, so both factors were correlated with collectivism. In the correlation to past negative time perspective, we did not see a significant positive relationship. In fact, we saw a *negative* relationship,  $r(523) = -0.033$ ,  $p < 0.05$ . In the correlation to past positive time perspective, we saw an expected significant, positive relationship,  $r(523) = 0.454$ ,  $p < 0.001$  (see Table 4).

Table 4: Correlation Matrix of Collectivism and Past Negative and Past Positive Time Perspectives

		PN	PP
COL	Pearson's $r$	-0.033	0.454***
	$p$ -value	0.778	<.001
	95% CI Upper	1.00	1.00
	95% CI Lower	-0.105	0.395

*Note.* COL = Collectivism, PN = Past Negative, PP = Past Positive

*Note.*  $H_a$  is positive correlation

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , one-tailed

The bulk of our findings came from the correlations between each facet of time perspective and anxiety. A positive, significant relationship was found between PN and anxiety,  $r(523) = 0.577$ ,  $p < 0.001$  and between PF and anxiety,  $r(523) = 0.431$ ,  $p < 0.001$ , as hypothesized. A negative, significant relationship was found between PP and anxiety,  $r(523) = -0.124$ ,  $p < 0.01$ , and between F and anxiety,  $r(523) = -0.077$ ,  $p < 0.05$ , which is consistent with our hypotheses. A positive, significant relationship was found between PH and anxiety,  $r(523) = 0.285$ ,  $p < 0.001$ , which was the opposite of what we

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

had hypothesized (see Table 5). This result was intriguing and suggests the need for further research.

Table 5: Correlation Matrix of Anxiety

		PN	PH	F	PP	PF
ANX	Pearson's <i>r</i>	0.577***	0.285***	-0.077*	-0.124**	0.431***
	<i>p</i> -value	<.001	<.001	<0.05	0.005	<.001
	95% CI Upper	0.632	0.362	0.009	-0.038	0.499
	95% CI Lower	0.517	0.205	-0.161	-0.207	0.359

*Note.* ANX = 16PF subscale, PN = Past Negative Time Perspective, PH = Present

Hedonistic Time Perspective, F = Future Time Perspective, PP = Past Positive Time Perspective, PF = Present Fatalistic Time Perspective.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## DISCUSSION

This study assessed the relationships between time perspectives, level of individualism and anxiety. The significant and positive relationship found between individualism and future time perspective suggests that, consistent with descriptions of individualistic participants, these individuals emphasize attaining future goals (Shirai & Beresneviciene, 2005). Collectivistic participants relate positively with the past positive time perspective which allows us some further confirmation of the descriptors surrounding collectivistic people as being highly relational beings who develop their identity on the basis of the relationships in their lifetime (Brislin & Kim, 2009). This identity development may be recognized as a positive one due to the additional finding that collectivism is negatively correlated with past negative time perspective. The past negative time perspective indicates one reconstructs past events in a negative light.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

Individuals with a past negative and present fatalistic time perspectives generally have a pessimistic outlook on life suggesting that they would have a higher tendency towards anxiety. Based on our results, this is further validated. Conversely, individuals who have a past positive outlook and those who are more future-oriented should be less likely to be anxious. This was seen in our results which is consistent with the characteristics of those who have PP and F time perspectives (Wu et al., 2019). An interesting finding is that of the positive relationship between present hedonistic time perspective and anxiety. This is contrary to our hypothesis, which originated from the characteristics of PH time perspective including being very laid back and unconcerned with risk-taking (Zimbardo & Boyd, 1999). However, the fact that these individuals have opposing characteristics to those with future time perspective, such as lack of care for the future and greater focus on present pleasures, it would seem fitting to have an opposing relationship with anxiety.

These findings are valuable in their increased representation. As opposed to the existing research on time perspectives for which data is limited to individuals of a single country, this present study assesses individuals from 22 countries. Not only does this increase generalizability, but it also allows us to address a cross-cultural element. It can be suggested that culture does play a role in the way individuals view time. Additionally, this temporal orientation does have implications on the tendency one has towards being more or less anxious. This result adds to the support of Time Perspective Therapy in addressing what additional factors may contribute to a client's anxiety within the clinical practice of treatment of psychiatric disorders.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

### **Limitations**

Despite the significant findings resulting from analyses of our participant data, there are several limitations present within this study. Although representation has been improved in comparison to past studies on time perspective, the representation within individual countries that make up the basis of our findings on tendencies toward individualism or collectivism within countries as a whole is lacking (e.g. UK  $N=4$ , Canada  $N=9$ ). Additionally, when seeking participants of different counties of origin, we recognized our study became further limited as it was only produced in the English language. Moreover, the INDCOL scale for measuring individualism and collectivism may not have been the most valid measure of this variable for the nature of our study, as Hofstede (2010) notes individualism is often measured on a spectrum and not dichotomously. Furthermore, seeing as this study is correlational, it is not ethical nor responsible to imply causation from the significant relationships found. It is important to keep one's time perspective and culture in consideration when addressing factors contributing to mental health, yet it cannot be said that a certain time perspective causes, or does not cause, anxiety in an individual.

### **Future Research**

Given the high prevalence anxiety has in our world, further research should continue to be done to better understand the contributing role our culture and mindset have on its persistence. As detailed previously, expansion on representation is still needed if this present study were to be replicated. Moreover, exploration of other assessments of individualism would be warranted to strengthen the validity of our findings. The unforeseen relationship found between present hedonistic time perspective and anxiety

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

would be one variable to consider in future research of this kind. Past research has not found this correlation that resulted from our data, thus additional analyses may add reliability to the relationship present here. Unfortunately, the variables present in this research are ones that cannot be easily manipulated, so experimental research may not be feasible under these conditions; yet, the strength in correlations between time perspective, individualism and anxiety still have grand implications for treatment of anxiety and increased understanding of the role culture has on one's outlook. Utilizing the data surrounding the relationships between facets of TP and anxiety, further research could also seek to determine whether balanced time perspective therapy is effective in "undoing" some of these relationships.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

## REFERENCES

- Akirmak, U., Tuncer, N., Akdogan, M., & Erkat, O. B. (2019). The associations of basic psychological needs and autonomous-related self with time perspective: The cultural and familial antecedents of balanced time perspective. *Personality and Individual Differences, 139*, 90–95.
- Brislin, R. W., & Kim, E. S. (2003). Cultural diversity in people's understanding and uses of time. *Applied Psychology: An International Review, 52*(3), 363–382.
- Lisa Drake, Elaine Duncan, Fi Sutherland, Clare Abernethy, Colette Henry. Time Perspective and Correlates of Wellbeing. *Time & Society*, Sage, 2008, 17 (1), pp.47-61. [ff10.1177/0961463X07086304](https://doi.org/10.1177/0961463X07086304). [ffhal-00571037f](https://doi.org/10.1177/0961463X07086304)
- Fulmer, C. A., Crosby, B., & Gelfand, M. J. (2014). Cross-cultural perspectives on time. In A. J. Shipp & Y. Fried (Eds.), *Time and work, Vol. 2: How time impacts groups, organizations and methodological choices*. (pp. 53–75). New York, NY: Psychology Press.
- Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality, 40*, 84–96.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software for the mind* (3rd ed.). McGraw-Hill Education.
- Hofstede, G. (n.d.). *Country comparison*. Hofstede Insights. <https://www.hofstede-insights.com/country-comparison>
- Hui, C.. (1988). Measurement of Individualism–Collectivism. *Journal of Research in*

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

- Personality.22. 17-36. 10.1016/0092-6566(88)90022-0.
- Kolesovs, A. (2005). Time perspective of Latvian and Russian (ethnic minority) high school students in Riga and Latgale. *Baltic Journal of Psychology*, 6(1), 5-20.
- Levine, R. V., & Norenzayan, A. (1999). The pace of life in 31 countries. *Journal of Cross-Cultural Psychology*, 30(2), 178–205.
- Papastamatelou, Julie & Unger, Alexander & Giotakos, Orestis & Athanasiadou, Fotini. (2015). Is Time Perspective a Predictor of Anxiety and Perceived Stress? Some Preliminary Results from Greece. *Psychological Studies*. 60. 10.1007/s12646-015-0342-6.
- Rivera, H. (1996). *Critique of 16PF*. Eric. <https://files.eric.ed.gov/fulltext/ED401304.pdf>
- Shirai, T., & Beresnevičienė, D. (2005). Future orientation in culture and socio-economic changes: Lithuanian adolescents in comparison with Belgian and Japanese. *Baltic Journal of Psychology*, 6(1), 21-31.
- Singelis, Theodore & Triandis, Harry & Bhawuk, Dharm & Gelfand, Michele. (1995). Horizontal and vertical individualism and collectivism: a theoretical and measurement refinement. *Cross-cultural Research - CROSS-CULT RES*. 29. 240-275. 10.1177/106939719502900302.
- Sircova, A., van de Vijver, F. J. R., Osin, E., Milfont, T. L., Fieulaine, N., Kislali-Erginbilgic, A., & Zimbardo, P. G. (2015). Time perspective profiles of cultures. In M. Stolarski, N. Fieulaine, & W. van Beek (Eds.), *Time perspective theory; Review, research and application: Essays in honor of Philip G. Zimbardo*. (pp. 169–187). Cham: Springer International Publishing.
- Sobol-Kwapinska, M. (2016). Calm down—It's only neuroticism. Time perspectives as

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

moderators and mediators of the relationship between neuroticism and well-being.

*Personality and Individual Differences*, 94, 64–71. [https://doi-](https://doi-org.proxy.olivet.edu/10.1016/j.paid.2016.01.004)

[org.proxy.olivet.edu/10.1016/j.paid.2016.01.004](https://doi-org.proxy.olivet.edu/10.1016/j.paid.2016.01.004)

Stolarski, M. (2016). Not restricted by their personality: Balanced Time Perspective

moderates well-established relationships between personality traits and well-

being. *Personality and Individual Differences*, 100, 140–144. [https://doi-](https://doi-org.proxy.olivet.edu/10.1016/j.paid.2015.11.037)

[org.proxy.olivet.edu/10.1016/j.paid.2015.11.037](https://doi-org.proxy.olivet.edu/10.1016/j.paid.2015.11.037)

Tafarodi, R. W., & Swann, W. B., Jr. (1996). Individualism-collectivism and global self-

esteem: Evidence for a cultural trade-off. *Journal of Cross-Cultural Psychology*,

27(6), 651–672.

Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and

vertical individualism and collectivism. *Journal of Personality and Social*

*Psychology*, 74(1), 118–128. [https://doi-org.proxy.olivet.edu/10.1037/0022-](https://doi-org.proxy.olivet.edu/10.1037/0022-3514.74.1.118)

[3514.74.1.118](https://doi-org.proxy.olivet.edu/10.1037/0022-3514.74.1.118)

Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of*

*Personality*, 69(6), 907–924. [https://doi-org.proxy.olivet.edu/10.1111/1467-](https://doi-org.proxy.olivet.edu/10.1111/1467-6494.696169)

[6494.696169](https://doi-org.proxy.olivet.edu/10.1111/1467-6494.696169)

Tseferidi, S.-I., Griva, F., & Anagnostopoulos, F. (2017). Time to get happy:

Associations of time perspective with indicators of well-being. *Psychology,*

*Health & Medicine*, 22(5), 618–624. [https://doi-](https://doi-org.proxy.olivet.edu/10.1080/13548506.2016.1226508)

[org.proxy.olivet.edu/10.1080/13548506.2016.1226508](https://doi-org.proxy.olivet.edu/10.1080/13548506.2016.1226508)

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

- van Beek, W., Berguis, H., Kerkhof, A., & Beekman, A. (2010). Time perspective, personality and psychopathology: Zimbardo's time perspective inventory in psychiatry. *Time and Society*, 20(3), 364–374. doi:10.1177/0961463X10373960.
- Wu, H., Zhou, R., Zhao, L., Qiu, J., & Guo, C. (2019). Neural bases underlying the association between balanced time perspective and trait anxiety. *Behavioural Brain Research*, 359, 206–214.
- Zimbardo, P.G., & Boyd, J.N. (1999). Putting time in perspective. A valid, reliable, individual-differences metric. *Journal of Personality and Social Psychology*, 77(6), 1271–1288. doi:10.1037/0022-3514.77.6.1271.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

## APPENDIX A

*Zimbardo Time Perspective Inventory*

Read each item carefully and respond by answering the question: "How true is this of me?" for each statement. Each statement was accompanied by a 5-point Likert scale from 1 = "Very Untrue" to 5 = "Very True".

1. I believe that getting together with one's friends to party is one of life's important pleasures.
2. Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories.
3. Fate determines much in my life.
4. I often think of what I should have done differently in my life.
5. My decisions are mostly influenced by people and things around me.
6. I believe that a person's day should be planned ahead each morning.
7. It gives me pleasure to think about my past.
8. I do things impulsively.
9. If things don't get done on time, I don't worry about it.
10. When I want to achieve something, I set goals and consider specific means for reaching those goals.
11. On balance, there is much more good to recall than bad in my past.
12. When listening to my favorite music, I often lose all track of time.
13. Meeting tomorrow's deadlines and doing other necessary work come before tonight's play.
14. Since whatever will be will be, it doesn't really matter what I do.
15. I enjoy stories about how things used to be in the "good old times".
16. Painful past experiences keep being replayed in my mind.
17. I try to live my life as fully as possible, one day at a time.
18. It upsets me to be late for appointments.
19. Ideally, I would live each day as if it were my last.
20. Happy memories of good times spring readily to mind.
21. I meet my obligations to friends and authorities on time.
22. I've taken my share of abuse and rejection in the past.
23. I make decisions on the spur of the moment.
24. I take each day as it is rather than try to plan it out.
25. The past has too many unpleasant memories that I prefer not to think about.
26. It is important to put excitement in my life.
27. I've made mistakes in the past that I wish I could undo.
28. I feel that it's more important to enjoy what you're doing than to get work done on time.
29. I get nostalgic about my childhood.
30. Before making a decision, I weigh the costs against the benefits.
31. Taking risks keeps my life from becoming boring.
32. It is more important to enjoy life's journey than to focus only on the destination.
33. Things rarely work out as I expected.
34. It's hard for me to forget unpleasant images of my youth.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

35. It takes joy out of the process and flow of my activities if I have to think about goals, outcomes, and products.
36. Even when I am enjoying the present, I am drawn back to comparisons with similar past experiences.
37. You can't really plan for the future because things change so much.
38. My life path is controlled by forces I cannot influence.
39. It doesn't make sense to worry about the future, since there is nothing that I can do about it anyway.
40. I complete projects on time by making steady progress.
41. I find myself tuning out when family members talk about the way things used to be.
42. I take risks to put excitement in my life.
43. I make lists of things to do.
44. I often follow my heart more than my head.
45. I am able to resist temptations when I know that there is work to be done.
46. I find myself getting swept up in the excitement of the moment.
47. Life today is too complicated; I would prefer the simpler life of the past.
48. I prefer friends who are spontaneous rather than predictable.
49. I like family rituals and traditions that are regularly repeated.
50. I think about the bad things that have happened to me in the past.
51. I keep working at difficult, uninteresting tasks if they will help me get ahead.
52. Spending what I earn on pleasures today is better than saving for tomorrow's security.
53. Often luck pays off better than hard work.
54. I think about the good things that I have missed out on in my life.
55. I like my close relationships to be passionate.
56. There will always be time to catch up on my work.

## APPENDIX B

*Individualism and Collectivism Scale*

Read each item carefully and select a response to indicate the level in which you identify with the statement. Each statement was accompanied by a 9-point Likert scale from 1 = "Never" to 9 = "Always".

1. If a coworker gets a prize, I would feel proud.
2. Competition is the law of nature.
3. Parents and children must stay together as much as possible.
4. When another person does better than I do, I get tense and aroused.
5. My personal identity, independent of others, is very important to me.
6. It is important that I do my job better than others.
7. It is important to me that I respect the decisions made by my groups.
8. Family members should stick together, no matter what sacrifices are required.
9. It is my duty to take care of my family, even when I have to sacrifice what I want.
10. I often do "my own thing."
11. I rely on myself most of the time; I rarely rely on others.
12. I'd rather depend on myself than others.
13. The well-being of my coworkers is important to me.
14. I feel good when I cooperate with others.
15. Winning is everything.
16. To me, pleasure is spending time with others.

## INDIVIDUAL V. COLLECTIVE, TIME PERSPECTIVE AND ANXIETY

## APPENDIX C

*International Personality Item Pool representation of The Sixteen Personality Factor Questionnaire Anxiety Scale*

Read each item carefully and select a response to indicate the level in which you identify with the statement. Each statement was accompanied by a 5-point Likert scale from 1 = “Strongly Disagree” to 9 = “Strongly Agree”.

1. Am afraid that I will do the wrong thing
2. Feel threatened easily
3. Am easily hurt.
4. Worry about things.
5. Spend time thinking about past mistakes.
6. Feel guilty when I say “no.”
7. Feel crushed by setbacks.
8. Don’t worry about things that have already happened.
9. Am not easily bothered by things.