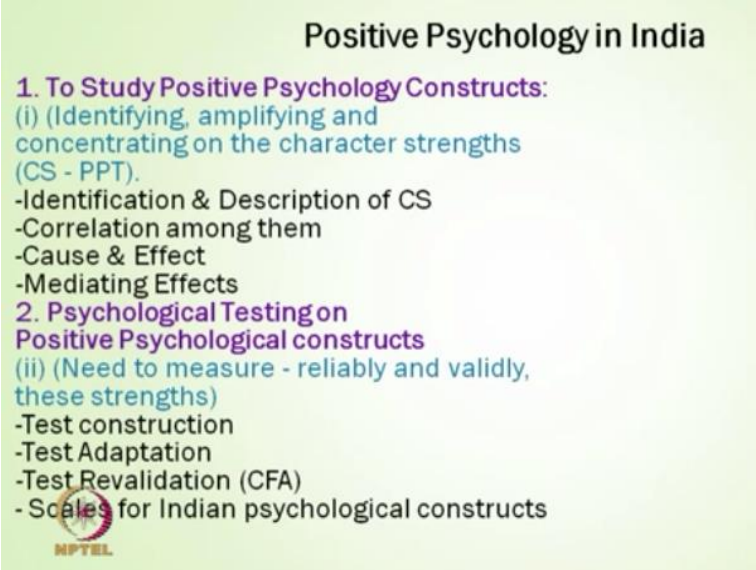


**Positive Psychology**  
**Prof. Kamlesh Singh**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology – Delhi**

**Lecture 21**  
**Recent Trends & Directions in Positive Psychology: Part 1**

Namaskar. This is our last week. This week topic is Recent Trends and Directions in Positive Psychology.

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**Positive Psychology in India**

- 1. To Study Positive Psychology Constructs:**
  - (i) (Identifying, amplifying and concentrating on the character strengths (CS - PPT).
    - Identification & Description of CS
    - Correlation among them
    - Cause & Effect
    - Mediating Effects
- 2. Psychological Testing on Positive Psychological constructs**
  - (ii) (Need to measure - reliably and validly, these strengths)
    - Test construction
    - Test Adaptation
    - Test Revalidation (CFA)
    - Scales for Indian psychological constructs

NPTEL

This week I will focus more on positive psychology in India, which is mixture of positive psychology and Indian psychology and I will support my points with various researches conducted by our group. If we just talk about positive psychology in India, I think if we divide in subsections, then there could be four subsections:

Number one, to study positive psychology constructs. If you could recall, we had three objectives of positive psychology. Number one identifying, amplifying and concentrating on the character strengths and can say positive personality traits. In this section, our focus is on identification and description of character strengths, correlation among them. Sometimes we can design study as per cause and effect studies as well as mediating effects in certain studies we document, for example, in one of our research, we focused on how emotional intelligence is mediating between personality and happiness. If we just count another field, another domain, which is very important to study, that is psychological testing on positive psychological

constructs. It matches with second objective, need to measure reliably and validly these strengths and in this section, I will discuss number of test construction studies, test adaptation, test revalidation, and overall view of how do we translate psychological tests. How do we adapt? How do we revalidate?

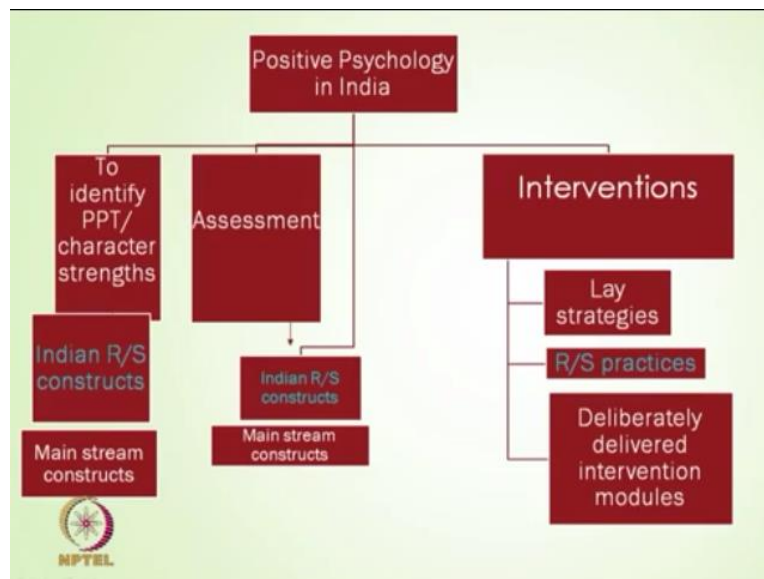
Here second section is psychological testing on positive psychological constructs. You could recall the second objective of positive psychology was need to measure reliably and validly these strengths. In this section, I will discuss about test construction, test adaptation, test revalidation, and various studies on all those aspects. Along with all those studies, scales for Indian psychological constructs would be discussed in this section.

Third one which is unique here is review of ancient Indian literature and how constructs from Indian psychology help us to understand human behavior. There are various constructs like *anasakti*, *satchitananda*, three *gunas*, *vikaras*, which may help us to understand human behavior and, in this section, I will discuss about all those.

Fourth one, as you know that is interventions and third objective of positive psychology was to develop and test interventions to build these strengths. First one which is traditional one, deliberately delivered modules or can say positive psychology intervention programs. There are 100s of programs in positive psychology nowadays, which are claiming that we can improve well being as well as resilience, flow and several other positive psychological constructs through these programs. Second, which is unique here is to identify existing social, cultural issues, which facilitate and hinder our well being and reinforce these facilitating factors through intervention programs. So broadly, we want to know social, cultural factors, which may have significant impact on our well being. If these are hindering variables or obstacles for our well being, then we could think how these can be removed, how these can be reduced, so that we can program to grow and we can have progress for our well being. On the other hand, we can identify certain factors, which I will discuss in this section, which are facilitating factors.

So how these factors could facilitate our well-being and we can highlight those factors because they are helping us to have higher level of happiness. So, all those social, cultural factors, I will discuss in this section.

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When we say Indian psychology that is mixture of positive psychology objectives as well as Indian psychology objectives, for example, to identify a positive personality traits or character strengths, so our identification mainly in positive psychology is main stream constructs like hope, optimism, flow, mindfulness and various other factors, which we have discussed in this course. Along with all these, our focus is on Indian psychological constructs also. For example, *anasakti*, *satchitananda*, *sukha-dhuka*, *vikaras*, or various other factors could be there, which help us to understand human behavior. So, in this section, I will discuss about all those factors also. When we say assessment, various scales available on all positive psychological constructs like flow scale, resilient scale, optimism scale, hope scale. Along with all these scales, there could be some scales on Indian constructs like *satchitananda*, vedic personality scale, *vikaras* scale, ashtanga yoga scale.

So, I will discuss about all those Indian construct scales also. When we say third objective that is interventions, so we know deliberately delivered intervention programs or again can say intervention programs in positive psychology that are well established, but along with these, there are some scholars who have identified lay strategies to improve well being. They asked people, what do you think, which activities would improve your well-being? And then they, you

know, identified all those, which are highlighted by them and then they documented those strategies, so I will discuss about those strategies also and religious spiritual practices are quite common in India and there are some programs which I think informally seems to improve our well being as well as health - physical as well as psychological.

I will discuss certain programs, which we have tested, which are religious, spiritual programs and we studied their effectiveness and observe that even these programs are really good to improve our well being as well as our health. So, I will discuss about those programs also. Let us take one by one.

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### 1. To study Positive Psychology Constructs:

➤ Correlates, predictors, causes and effects of mental health/ happiness/well-being especially in Indian setting.

Our first objective was to study positive psychology constructs. Under this category, we will discuss about correlates, predictors, cause and effects of mental health, happiness, well being especially in Indian setting. Here in this section, I am talking about mental health, happiness, well being in terms of synonymous or interchangeable terms these are, which we are using generally in positive psychology studies and we do not focus much on from which particular theory or model these are.

Because in each research, first of all we talk about operational definition only. So, these - mental health, happiness, well-being these terms have been used interchangeably here and second is how psychosocial and socio-demographic factors affect mental health and well being.

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**Well-being & its indicators**

- Happiness (Overall Happiness).
- Subjective Well-being (Life Satisfaction + Positive Emotions).
- Psychological Well-being: autonomy, positive relations, environmental mastery, self acceptance, purpose in life, and personal growth (Ryff, 1989).
- MHC: Emotional well-being + Psychological well-being + Social Well-being (Keyes 2002).
- PERMA (Seligman, 2013) positive emotions (P), engagement (E), relationships (R), meaning (M), and accomplishment (achievement) (A).
- Quality of Life: WHOQOL-BREF (WHOQOL-BREF, 1996) Domains: Physical Health, Psychological Well-being, Social Relationships & Environmental conditions.
- Personal well-being (Cummins 1997, Cummins and Lau, 2005) seven dimensions: standard of living, health, life achievement, personal relationships, personal safety, feeling part of community, and future security.

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I think now you understand all these things and, you know, there could be various models of well being, as you have studied it in happiness chapter. Happiness could be overall happiness. It could be subjective well being, which is combination of life satisfaction and positive emotions. It could be psychological well being model in a particular study, in which autonomy, positive relations, environmental mastery, self-acceptance, purpose in life, and personal growth are the factors of psychological well being.

There are some other studies in which they have focused on mental health model and in this case emotional well being, psychological well being and social well being were the main factors. PERMA model, you know about it, that is combination of positive emotions, engagement, relationships, and accomplishment, that is, achievement. Quality of life and personal well being models also we have used in our researches.

Quality of life, it includes physical health, psychological well being, social relationships, and environmental conditions. On the other hand, personal well being, its combination of seven factors - standard of living, health, life achievement, personal relationships, personal safety, feeling part of community and future security. I think along with all, you already know, in psychological testing broadly we use Likert scale, that could be 5-point Likert scale, that could be 7-point Likert scale or may be 10-11 and we just at very previous stage, we convert your

behavior in numbers. For example, by considering overall view of happiness - what is your score and what is your status on the scale of 0-10. When you are saying, say 7, it means we have converted your behavior in numbers and then we do statistical analysis.

And by using rigorous or very scientific or higher level of statistics, we have certain prediction about group behavior and we work on averages. So, by considering all these things, we have conducted various researches.

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**Correlates & predictors of Mental Health**

1) Correlates and predictors of positive mental health for school going children by Singh & Junnarkar (2015).

- The relationship between positive mental health and well-being was examined in 604 North Indian high school and secondary high school going children aged 11-18 years.
- The study employed various scales such as Mental Health Continuum-Short Form (MHC-SF; Keyes, 2005), Scale of Positive and Negative Experiences (SPANE) and Flourishing Scale (FS; Diener et al., 2010), World Health Organization Quality of Life-BREF (WHOQOL-BREF, 1996) and Personal Well-being Index Scale-School Going Children (PWISC; Cummins & Lau, 2005).



Let us start with some of these researches, so that you can understand how do we do research, number one, and what are our findings from Indian researches. So, first research is on correlates and predictors of mental health. This research was correlates and predictors of positive mental health for school going children and we did it in 2015. The relationship between positive mental health and well being was examined in 604 North Indian high school and secondary high school going children.

And their age was 11 to 18 years. The study employed various scales, such as mental health continuum, that we had for studying mental health and its three dimensions - emotional, psychological and social well being. We had scale related to positive, negative experiences, and flourishing scale. We had World Health Organization Quality of Life Scale, you know, it talks about four domains, personal well being scales we used in this study.

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- **Mental health was predictor variable** and the various predictors were used (SPANE, FS, WHOQOL and PWI) in this study.
- **Positive mental health** was found positively correlated with SPANE P, personal well-being, flourishing and all four domains of quality of life (physical health, psychological well-being, social relationships and environmental health) and negatively correlated with SPANE N.
- **Well-being measures of flourishing, SPANE P, SPANE-N, all four domains of quality of life (physical health, psychological well-being, social relationships and environmental health) significantly predicted children's positive mental health (49% of variance) and its dimensions like emotional well-being (41% of variance), social well-being (24% of variance) and psychological well-being (47% of variance).**

Mental health was predictor variable and various predictors were used, like positive-negative experiences, flourishing, quality of life and its domains, personal well being. Positive mental health was found positively correlated with positive experiences, personal well being, flourishing and all domains of quality of life - these are physical health, psychological well being, social relationships and environmental health and negatively correlated with negative experiences.

Well-being measures of flourishing, positive and negative experiences, all four domains of quality of life significantly predicted children's positive mental health and percentage of variance was 49% and its dimensions like emotional well-being, shared 41 % of variance, social well-being 24% of variance, and psychological well-being 47% of variance. So, we can say mental health and various other well-being indicators are highly correlated with each other, as well as these share certain percentage of variance and connected with each other to some extent we can say.

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## 2) Mental health and psychosocial functioning in adolescence: An investigation among Indian students from Delhi, Singh et al., 2015.

- The present research focused on positive mental health of Indian adolescents within the Mental Health Continuum model.
- Aims were to estimate their prevalence of mental health and to examine its associations with mental distress and psychosocial functioning, taking into account age and gender.
- A group of 539 students (age:13-18; 43.2% girls) in the National Capital Territory of Delhi completed Mental Health Continuum Short Form, Depression Anxiety and Stress Scales-21 and Strengths and Difficulties Questionnaire.




Our second research was mental health and psycho-social functioning in adolescence and investigation among Indian students from Delhi. The present research focused on positive mental health of Indian adolescents within the mental health continuum model. Aims were to estimate their prevalence of mental health and to examine its associations with mental distress and psychosocial functioning taking into account their age and gender.

A group of 539 students, their age was 13 to 11 years and 43.2% were girls and remaining were boys. They were selected from Delhi NCR and they completed three scales, mental health continuum, depression anxiety-stress scale and third was strengths and difficulties questionnaire, in which we have two factors, one positive on strengths and second negative on difficulties.

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- Findings showed that 46.4% participants were flourishing, 51.2% were moderately mentally healthy, and only 2.4% were languishing.
- A higher number of girls and younger adolescents were flourishing compared to boys and older adolescents.
- Moreover, flourishing participants reported lower prevalence of depression and adjustment difficulties, and more pro-social behavior.



**Mental Health Continuum**

- Flourishing "almost every day" or "every day" (1 emotional well-being + 6 positive functioning)
- Moderate
- Languishing "never" or "once or twice" (1 emotional well-being + 6 positive functioning)

NPTL

In this research, we observed various findings. I think now you could easily recall this model. In this model, we converted their score in three categories, flourishing, moderate and languishing. Flourishing means ‘almost every day’ or ‘every day’ it means on positive items if person has quite high score at least 3 emotional well-being and 6 out of 11 positive functioning items, then this child is flourishing.

On the other hand, if person is saying ‘never’ or ‘once’ or ‘twice’ on positive items of well being or mental health, at least 1 on emotional well being and 6 positive functioning out of 11, again then this child is languishing. So, by considering this model we converted their data in three categories, flourishing, moderating and languishing and it was observed that 46.4% participants were flourishing, 51.2% were moderately mentally healthy and only 2.4% were languishing.


However, these results should not be generalized to Indian population, because these students were from private schools only and from Delhi NCR and if we just collect more data and take into account some more demographic variable, then our research may be different and we should understand these results as per these demographic variables. Second very important finding we observed here, higher number of girls and younger adolescents were flourishing compared to boys and older adolescents.

You would find these findings have been strengthened in next researches also. Moreover, flourishing participants reported lower prevalence of depression and adjustment difficulties and they had more prosocial behavior.

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**Demographic variables and Happiness & related Factors:**  
3) Factors Affecting Mental Health of North Indian Adolescents, Singh et al., 2017

- The study explored the different factors that affect mental health of adolescents.
- A total of 1209 adolescents participated of which 591 adolescents responded in English and 618 adolescents responded in Hindi.
- About 1089 adolescents were attending school and 120 adolescents were school dropouts.
- In the current study, original three factors structure of Hindi-translated MHC-SF was confirmed. **The measurement invariance results indicated that the scale is a valid scale in English and Hindi languages.**



In another research, we focused on demographic variables, and demographic and happiness and related factors was the main motto in next 2, 3 studies. So, first of all factor affecting mental health of North Indian adolescence. This study explored different factors that affect mental health of adolescents. In this study, we collected data on 1209 adolescents and out of them 591 adolescence responded in English and 618 adolescence responded in Hindi.

So, they had language choice, whichever language they prefer. About 1089 adolescents were attending school and 1020 adolescence were school drop-outs, because we wanted to study schooling versus drop-out students. In the current study, original 3 factor structure of Hindi translated mental health continuum was confirmed. The measurement invariance results indicated that scale is a valid scale in English and Hindi languages.

I will discuss this section in next part of this lecture, but still I think you should understand that if we are using 2 languages for our scale, then first of all we must be assured that these 2 languages scales is working properly as well as this adapted or translated scale is same as per English

language responses and in both data sets, original 3-factor structures were confirmed, which was confirmed through statistical analysis.

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**Multivariate results indicated:**

- ✓ Age [(early(13-14 yrs.) vs. middle (15-16 yrs.) vs. late 17-19 yrs.)] Results indicated that early adolescents were significantly higher than the middle and late adolescents on all domains and on total score of MHC-SF.
- ✓ Gender: SWB of females was higher as compared to males.
- ✓ Type of school (government vs. private): The results indicated that participants who attended private schools (EWB, SWB, PWB & Total MHC-SF) possessed higher mean scores as compared to adolescents who attended government schools.
- ✓ Place of residence (urban vs. rural): The results indicated that participants who resided in rural areas (EWB, SWB, PWB and Total MHC-SF) possessed higher mean scores as compared to adolescents who resided in urban areas.
- ✓ Ability to express thoughts and opinion in front of parents, presence of relaxed environment at home and satisfaction with dressing style affected adolescent's mental health.
- ✓ Adolescents attending school displayed better mental health functioning than drop outs. Adolescents who were attending school had higher mean on SWB and total MHC-SF scores as compared to school dropouts.

NPTL

Multivariate results indicated role of age, gender, schooling, locality and various other factors. Let us discuss one by one. When we observed age, we divided it in three sections, early age 13-14 years, middle age 15-16 years and late 17-19 years. We observed that you know early adolescence were significantly higher than the middle and the adolescence on all domains on total score of MHC.

So, it has been observed that younger group 13-14 had better score on mental health as well as on emotional, social and psychological well being. Gender wise, it has been observed that social well being of females was higher as compared to the males. For type of schooling the results indicated that participants who attended private schools, they had better mental health as well as higher score on emotional, social and psychological well being as compared to those who attended government schools.

Place of residence was also significant variable when we compared their data in terms of urban and rural. The results indicated that participants who resided in rural areas, they had better or higher mean scores as compared to adolescents who resided in urban areas. Ability to express

thoughts and opinion in front of parents, presence of relaxed environment at home and satisfaction with dressing style affected adolescent's mental health.

In this study, we also observed that adolescents attending school had better mental health than drop-outs. Adolescents who were attending schools had higher mean on social well-being and on the total score of mental health compared to school drop-outs. So, we can say school drop-out students had poorer mental health as well as social well being compared to school attending students.

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#### 4. Effect of the Demographic Variables and Psychometric Properties of the Personal Well-Being Index for School Children in India, Singh et al., (2014)

- ▶ PWI-SC (Cummins and Lau 2005) measures well-being in different domains, namely **standard of living, personal health, life achievement, personal relationships, personal safety, community-connectedness and future security**, with an additional optional item measuring happiness with **life as a whole**.
- ▶ The study aimed at validating psychometric properties for the English and the Hindi translated version of PWI-SC in Indian context.

In our another study which was on personal well being, we had similar kind of results and this topic was effect of the demographic variables and psychometric properties of personal well-being scale, because we used these scales first time and before that, we could not observe the person who have studied their psychometric properties in Indian setting. So, in all our researches or series of researches, which I am discussing with you here, first of all, we reported the scales psychometric properties in Hindi, in English and when we have joint data set, English as well as Hindi and most of the time, we observed that results are in favorable conditions. You know, about personal well being, this personal well being is combination of various factors: standard of living, personal health, life achievement, personal relationships, personal safety, community connectedness and future security.

And they had one more question on overall happiness level. The study aimed at validating psychometric properties for the English and the Hindi translated version of this scale.

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- Data from 1,301 students, aged 13–18 years (mean age=15.40 years, SD=1.33) was collected.
- The English and Hindi version confirmed one-factor solution of the PWI-SC.
- The effect of demographic variables on different domains of PWI-SC indicated that adolescents who resided in rural areas and those who attended private school possessed a significantly higher score on PWI-SC.
- Well-being declined as age increased from early adolescence (13-15 years) to late adolescence (16-18 yrs.). The results of this study are in agreement with the previous literature.



As I discussed earlier also for that purpose, we had 1301 student's data and their age range was 13-18 years with the mean 15.40 and standard deviation 1.33. The English and Hindi version confirmed one factor solution of the personal well-being scale. The effect of demographic variables on different domains of personal well-being indicated that adolescents who resided in rural areas and those who attended private schools possessed a significantly higher score on personal well being.

Well being declined as age increased from early adolescence that was 13-15 years to late adolescence. So, the result of this study are in agreement with the previous literature. In this series, our next research is validation and effect of demographic variables on perceived quality of life by adolescence. So, the objectives of the current study were to examine the psychometric properties of the scale as I have been discussing in previous studies also.

And then role of demographic variables on quality of life - data from 1327 students we had and their age range was 11-21 years. Their average age - 15.36 years and standard deviation 1.42. Results of multivariate analysis demonstrated that adolescents differed significantly on demographic variables, which has strengthened our previous findings. Adolescents who attended private school possessed significantly better quality of life, overall view as well as you know, on

physical health, on psychological well being and environmental conditions, as compared to adolescence who attended government schools.

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#### 5. Validation and effect of demographic variables on perceived quality of life by adolescents by Singh & Junnarkar (2014)

- The objectives of the current study were to examine the psychometric properties of the WHOQOL-BREF (English and Hindi language) on Indian adolescents and to explore the role of demographic variables on quality of life.
- Data from 1327 students, aged 11–21 years was collected with mean age = 15.36 years (SD = 1.42 years).
- Results of multivariate analysis demonstrated that adolescents differed significantly on demographic variables.
- Adolescents who attended private school possessed significantly better quality of life (overall), physical health, psychological well-being and environmental conditions as compared to adolescents who attended government school.

Rural adolescents had significantly higher perceived quality of life, physical health, psychological well being, social relationship and environmental conditions as compared to urban adolescents. Along with present findings there are various other findings which are supporting our results like Freeman and his associates in 2001 reported that well being and belongingness was higher in rural adolescence as compared to their urban counterparts.

Sharma and Gulati in 2012 found that despite living in impoverished conditions, rural adolescents perceived higher level of happiness. They also found that female adolescents perceived more happiness as compared to male adolescents. So, all these researches showing importance of demographic variable and we could conclude that all of the above-mentioned studies support role of socio-demographic variables. And when we are doing research as well as preparing intervention modules, we should take into account socio-demographic variables.

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- Rural adolescents had significantly higher perceived quality of life (overall), physical health, psychological well-being, social relationships and environmental conditions as compared to urban adolescents.
- Aligning with present findings, Freeman et al., (2001) reported that well-being and belongingness was higher in rural adolescents as compared to their urban counter-parts.
- Sharma and Gulati (2012) found that despite living in impoverished conditions, rural adolescents perceived higher levels of happiness.
- They also found that female adolescents perceived more happiness as compared to male adolescents.

All of the above-mentioned studies support role of socio-demographic variables.



Now another section in this domain is to study association between Indian psychological constructs and mainstream psychological constructs. To some extent we should understand that how Indian constructs or Indian explanations of certain factors is correlated with the mainstream psychological constructs. For strengthening this point, I have selected 2, 3 studies in this direction.

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#### Relationship between *Triguna* theory and well-being indicators, Khanna, Singh, Singla & Verma (2015)

- The present study examined the relationship between *Gunas* and well-being indicators such as psychological capital, personality, life satisfaction, and subjective happiness.
- The study was conducted on two samples. Vedic Personality Inventory (Wolf, 1999 ) and Mental Health Continuum-Short Form were administered to both the samples.
- The first sample consisted of 80 Indian professionals (males = 51 and females = 29) with mean age = 28.8 years (SD = 7.19) who were administered Psychological Capital Questionnaire and Big-Five Personality Inventory and the second sample consisted of 110 students (males = 82 and females = 28) with mean age = 21 years (SD = 2.72).



Study #1 is relationship between triguna theory and well-being indicators. The present study examined the relationship between gunas. Gunas means three factors, I think now you know. So, this triguna theory includes these 3 factors sattva, rajas and tamas and what is the correlation

between these gunas and well being indicators, such as psychological capital, personality, the big five, life satisfaction and subjective happiness. This study is conducted on two samples sets.

The first sample consisted of 80 Indian professionals, 51 males and 29 females with age range 28.8 years and standard deviation 7.19. On the other hand, another group 110 students out of them 82 were males and 28 were females. Their mean age was 21 years and standard deviation 2.72. This group was administered only vedic personality inventory and mental health continuum.

On the other hand, the first group was administered vedic personality inventory, mental health continuum and along with these 2 scales, they had psychological capital questionnaire and big 5 personality. So, let us see their results.

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**Table: Correlation between variables of interest**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Net PsyCap1																	
Efficacy 2	.83**																
Hope 3	.77**	.55**															
Resilience 4	.85**	.62**	.52**														
Optimism 5	.60**	.26*	.36**	.27*													
WBTotal 6	.50**	.33**	.55**	.34**	.34**												
PWB 7	.35**	.16	.44**	.28*	.23*	.78**											
SWB 8	.30**	.19	.38**	.16	.24*	.88**	.52**										
PWB 9	.62**	.46**	.59**	.46**	.39**	.90**	.66**	.63**									
Sattva 10	.36**	.27*	.49**	.17	.22*	.33**	.23*	.27*	.35**								
Rajas 11	0	.16	-.08	.04	-.08	-.26*	.27*	.16	-.27*	-.08							
Tamas 12	-.05	-.04	-.1	.07	-.13	-.29*	.19	-.26*	-.27*	-.31**	.69**						
Ex 13	.44**	.27*	.36**	.44**	.27*	.28*	.25*	.17	.33**	.27*	-.1	-.03					
A 14	.35**	.13	.35**	.31**	.31**	.33**	.35**	.16	.38**	.35**	.41**	-.27*	.33**				
C 15	.09	-.05	.22*	.04	.11	.22*	.1	.22*	.22	.38**	.38**	.41**	.23*	.38**			
N 16	-.36**	-.2	-.32**	-.35**	-.23*	-.27*	-.18	-.21	-.29*	-.30**	.41**	.36**	-.19	-.32**	-.47**		
O 17	.25*	.22*	.17	.22*	.14	.34**	.19	.32**	.32**	.35**	.26*	.31**	.1	.18	.30**	.023*	
Mean	112.9	30.00	29.34	27.74	25.82	48.41	11.21	14.14	23.08	75.04	51.26	43.60	27.76	34.96	32.01	20.98	35.49
Std. Deviation	12.92	4.82	3.36	4.83	3.95	11.53	2.87	5.50	4.96	0.09	11.07	11.36	4.77	4.71	4.53	4.80	4.51
Correlation	NA	0.84	0.70	0.63	0.42	NA	0.75	0.78	0.80	0.72	0.76	0.82	0.88	0.92	0.92	0.92	0.95

N = 80, \*\* p ≤ 0.01 (2-tailed), \* p ≤ 0.05 (2-tailed)

Results are really interesting and these results are important for us to understand, so that we can understand how Indian constructs could be correlated with the mainstream psychology variables, factors, or constructs. So, if we just see sattva, rajas and tamas, how these are correlated with each other. We could observe here rajas is not correlated with sattva, but tamas is negatively correlated with sattvik style and positively with rajasik style.



So, to some extent, we can say rajasik and tamasik have been observed negative factors and sattvik style is positive factor and let us see then how it is correlated with psychological capital and its four factors. I think now you know these four factors are efficacy, hope, resilience, and optimism. Here you could see sattva guna and psychological capital are positively correlated with each other, except fourth.

Fourth is resilience, that is not significantly correlated, but all other factors are significantly positively correlated with sattva guna. On the other hand, rajas and tamas, these are in direction negative, but these are not correlated significantly with the psychological capital and its factors. Then we compare with mental health continuum and its 3 dimensions. These are emotional well being, social well being and psychological well being.

Then sattva guna is positively correlated with mental health as well as with its dimensions. On the other hand, rajas and tamas both, these are correlated, but in negative direction. On the other hand, when we talk about vedic personality versus the big 5 factors personality, extraversion is positively correlated with sattva guna only. On the other hand, all other factors like agreeableness, positively correlated with sattva guna, but negatively correlated with rajas and tamas.

Similarly, conscientiousness positively correlated with sattvik style, but negatively correlated with rajasik and tamasik style and openness to experiences sattvik style or sattva guna is positively correlated, but rajas and tamas negatively correlated. On the other hand, neuroticism, you know that is emotional instability broadly. So that is negatively correlated with sattvik style, on the other hand positively correlated with rajasik and tamasik.

So broadly as per this model, we can say sattvik gunas is positively correlated with positive traits. On the other hand, negatively correlated with negative traits. On the other hand, rajas and tamas seems negative constructs and they are negatively correlated with positive constructs of main stream and positively correlated with negative constructs like neuroticism. So, to some extent we could connect, you know, Indian theories or Indian models with main stream of positive psychology or psychology constructs.

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Correlation between Vedic Personality factors & other variables of interest										
F	Mean	SD	SAT	RAJ	TAM	LS	SHS	EWB	SWB	PWB
SAT	42.5	26.8	1	-.75**	-.81**	.31**	.37**	.49**	.25**	.51**
RAJ	31.54	4.09		1	.22*	-.24*	-.24*	-.31**	-0.14	-.29**
TAM	25.94	4.7			1	-.24*	-.33**	-.44**	-.24*	-.49**
LS	20.89	5.07				1	.32**	.46**	.29**	.51**
SHS	17.05	3.13					1	.48**	.21*	.40**
EWB	10.23	2.6						1	.46**	.57**
SWB	12.91	4.95							1	.45**
PWB	20.12	5.5								1

\*\* p ≤ 0.01 (2-tailed). \* p ≤ 0.05 (2-tailed)

Similarly, on another data set, it is clear here that sattvik style is negatively correlated with the rajasik and tamasik gunas and rajasik is positively correlated with tamasik style. On the other hand, all of them are correlated with well being factors, like that is MHC, subjective well being and life satisfaction. So, all these well-being indicators are positively correlated with sattvik gunas.

On the other hand, with rajasik and tamasik all of them are significantly correlated, except social well being with rajasik style. These are correlated, but we have negative correlation between these rajasik and tamasik and well being indicators. So, to some extent this Indian theory or Indian explanation of personality has its connections with the main stream psychology constructs.

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- Across both studies, *Sattva* was found to be positively correlated with well-being, *Rajas* and *Tamas* were negatively correlated with well-being.
- Higher levels of *Sattva* and well-being were reported in the older age-group.
- Males scored higher on *Rajas* while no gender differences were found in well-being.

From this research, we concluded that across both studies, *sattva* was found to be positively correlated with well being. *Rajas* and *tamas* were negatively correlated with well being. Higher level of *sattva* and well being were reported in the older age group. Males scored higher on *rajas* while no gender differences were found in well being.

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**Cross-cultural differences on *Gunas* and other well-being dimensions, Singh, et al., 2016**

- The current study investigated the triadic *gunas* and well-being dimensions across 3 nations:
- **India** (n = 493; 194 males and 299 females; mean age = 21.73 years, SD = 3.23),
- **USA** (n = 302; 80 males and 222 females; mean age = 22.90 years, SD = 2.78)
- and **Czech Republic** (n = 353; 67 males and 286 females; mean age = 22.29 years, SD = 2.29) with a total of 1148 participants.
- *Triguna* Personality (Vedic Personality inventory by Wolf, 1999 ) and well-being dimensions measured by **Mental Health Continuum-Short Form, Flourishing scale and the Scale of Positive and Negative Experiences (MHC-SF, FS and SPANE)** were used in this study.
- *Triguna* were correlated with MHC-SF and its clusters, FS and SPANE.

Similarly, we did another study, which was on cross cultural differences on *gunas* and other well being dimensions. The current study investigated *trigunas* and well-being dimensions across 3 nations. In these 3 nations, we collected data from Indian 493 participants with 194 males and 299 females. You could see their mean age was 21.73 and SD 3.23 of this age group. We collected data from USA also and number of participants was 302.

Out of them 80 males and 222 females were there. Their mean age was 22.90 years with 2.78 standard deviation. Collected data from Czech Republic, European country and this data was 353 - 67 males and 286 females. Their mean age was 22.29 years and standard deviation 2.29. So total 1148 participants data were collected. Three guna personality, vedic personality inventory now you know which is developed by Wolf in 1999 and well being dimensions measured by mental health continuum, by flourishing scale, positive and negative experiences scale.

These scales were used in this study. Three gunas were correlated with mental health and its clusters, emotional, social and psychological well being with flourishing as well as positive-negative experiences. As the objective of the study was to explore the effect of personality that is 3 gunas, sattva, rajas and tamas on well-being.

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- As the objective of the study was to explore the effect of personality (*Trigunas (Sattva, Rajas & Tamas)*) on well-being. Regression analysis revealed that *Trigunas* accounted significantly for well-being dimensions.
  - The results indicated that *Sattva* accounted for about 48% variance in Czechs (predicted by EWB, PWB and FS), 56% in Indians (predicted by EWB, SWB, PWB, FS and SPANE P) and about 55% variance in Americans (predicted by PWB, FS and SPANE N).
  - *Rajas* accounted for about 21% variance in Czechs (predicted by FS and SPANE N), 8% variance in Indians (predicted by SWB and SPANE N) and 54% variance in Americans (predicted by SPANE P and SPANE N).
  - A total of 50% variance accounted for *Tamas* in Czechs (predicted by PWB, FS and SPANE N), 20% variance in Indians (predicted by SWB, PWB, FS and SPANE N) and 64% variance in Americans (predicted by SWB, FS, SPANE P and SPANE N).
- Thus, the results reinforce that *trigunas* personality significantly accounted for well-being dimensions.

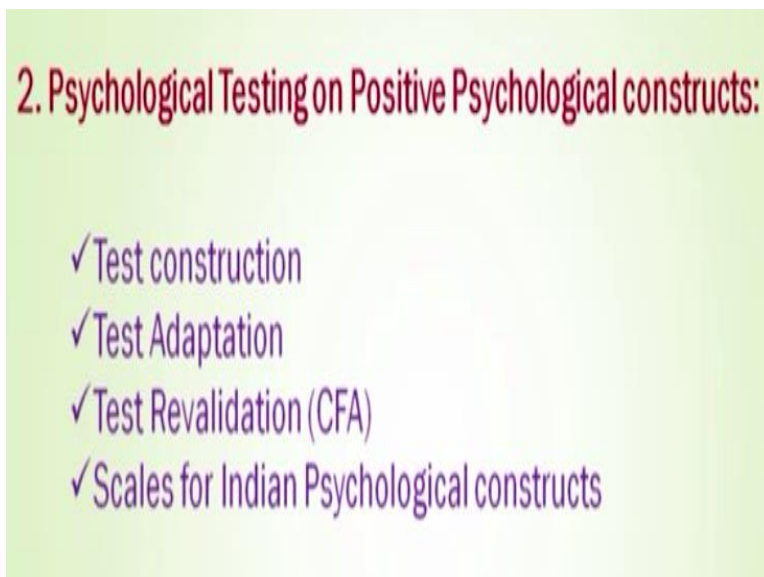
Regression analysis revealed that 3 gunas accounted significantly for well being dimensions. The results indicated that sattva accounted for about 48% variance in Czech and was predicted by emotional well-being, psychological well-being and flourishing; 56% in Indians, which is predicted by emotional well being, psychological well being, flourishing and positive experiences.

And about 55% variance in Americans predicted by psychological well being, flourishing and positive experiences. On the other hand, rajas accounted for about 21% variance in Czech and that was predicted by flourishing and negative experiences, 8% variance in Indians, which is predicted by social well being and negative experiences and 54% variance in Americans, which was predicted by positive and negative experiences.

A total of 50% of variance accounted for tamas in Czech. So predicted by psychological well being, flourishing and negative experiences, 20% variance in Indians, which was predicted by social well being, psychological well being, flourishing and negative experiences, and 64% variance in Americans, which was predicted by social well being, flourishing, positive experiences and negative experiences.

Thus, the results reinforced that 3 gunas personality significantly accounted for well being dimensions, not only in India, but in other countries also and this way we could do some cross-cultural researches and understand behavior not only in Indian setting, but in other settings also, how such kind of studies reporting results.

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In this series, second topic is psychological testing on positive psychological constructs. In this section, I will discuss test construction, test adaptation, test revalidation, scales for Indian psychological constructs. I think now you know we have covered this section earlier also.

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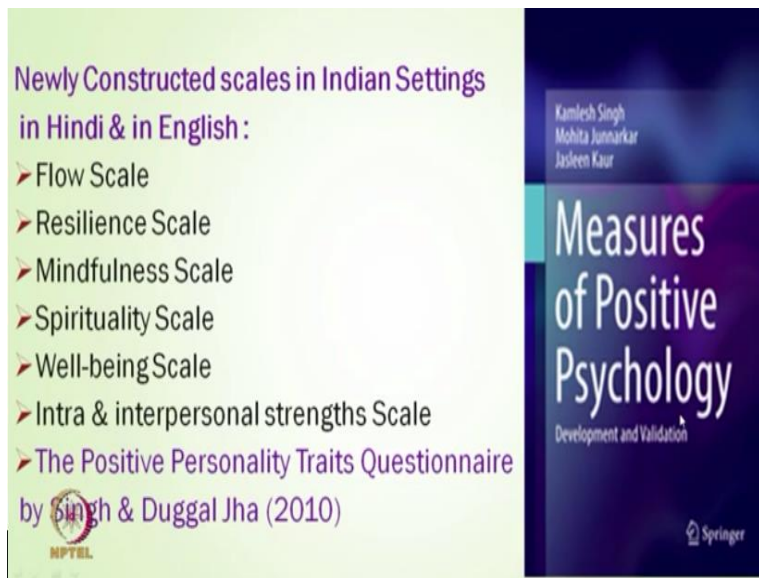


When I am saying test construction, then it covers various steps. First of all, we define construct, what is operational definition of it and then write items to reflect construct. There should be clear cut connection between operational definition here and the items which we have generated. Then, you know, collect data, perform item analysis and then revise items as per our results. Some items are selected here and others may be rejected because of poor item analysis.

Then we collect new data sets on newly developed items and then again, we do item analysis, mean, standard deviation, skewness, kurtosis, item total correlation, alpha reliability if item is deleted and various other parameters we use. Then we do exploratory as well as confirmatory factor analysis. Exploratory factor analysis means when we are exploring what factor solution would be the suitable.

On the other hand, in confirmatory factor analysis, our objective is to confirm previously confirmed, you know, factor analysis. So here our approach is totally different, which I will discuss once again in next slides, and finally test is developed. So, by following this process, we have developed various scales in our book, Measures of Positive Psychology, which is published with Springer in 2016.

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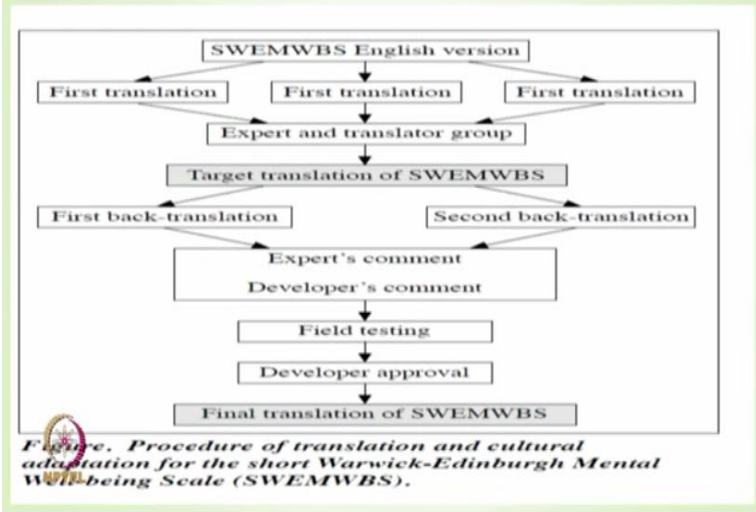


And we have developed by using rigorous statistical techniques, these scales in Hindi as well as in English. So, if some of you are researchers and want to have scales in Hindi or in English in Indian setting, most welcome. You just write to us; we could provide these scales to you. We developed scale on flow, on resilience, on mindfulness, on spirituality on well being as well as one scale which has combination of intra and interpersonal character strengths.

In 2010, we published another research on positive personality trait questionnaires. This is again new questionnaire, which we developed here in Indian setting and main point of this positive personality trait questionnaire is, first of all we did qualitative research. From this qualitative research, we observed how people are identifying character strengths and then we developed questions for this scale, Positive Personality Traits Questionnaire, PPTQ. And then we studied psychometric properties of established scale PPTQ. So, these are the scales, which are developed by my research team.

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## Test Translation/ Adaptation & its Psychometric properties



Next is, in some cases we talk about test translation, test adaptation. So, I would like to share with you, how do we do translation, as well as how do we adapt psychological tests. First of all about test translation - we have very rigorous style to translate a test. We have 2 or 3 people who are doing translation at first level. So maybe first translation by various people, then expert and translator sit on that translation, then they think about it and they finalize this translation.

Once they translate, for example, English to Hindi, once they translate and quite confident on this translation, then another group of people must translate it back to English. So, first back translation or second back translation and then expert compare to decide the back translation and then the scholar would compare the original sentences versus these back translated sentences and I know when I translated this Conner Davidson's scale, I was working with Davidson and he asked me various questions on this translated version and asked whether this particular word is synonym of this word in your culture. So that way they tried to find out exact same meaning translated version and then they developed approval, and once they finalize this translated version, that is now available to use for research purposes. Before that, you are supposed to study psychometric properties of the scale and you have to establish these psychometric properties are good and this scale is approvable to use.

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### Test Revalidation

- World Health Organization Quality of Life (WHOQOL-BREF, 1996) (original version & in Hindi)
- The Personal Well-being Index for School Children, (PWI-SC; Cummins & Lau, 2005) (Original version & in Hindi)
- Scale of Positive and Negative Experiences, (SPANE, Diener et al., 2010)
- Flourishing Scale, (FS, Diener et al., 2010) (Original version & in Hindi)
- Mental Health Continuum Short Form, (MHC-SF; Keyes, 2005) (Original version & in Hindi)
- Depression Anxiety Stress Scales 21 (DASS-21), (Lovibond & Lovibond (1995) (Original version & in Hindi)
- Connor-Davidson Resilience scale (CD-RISC), (Connor-Davidson (2003)(Original version & in Hindi)
- Grit-S scale (Duckworth & Quinn, 2009): It is a two-factor scale with 8 items (in Hindi)
- Harmony in Life Scale (HILS; Kjell et al. 2015) (Hindi translated version).
- Peace of Mind Scale (PoM; Lee et al., 2013) (Hindi translated version) 5/7 items.

So, this is the way to translate a psychological test. For test revalidation, we just revalidate this scale through confirmatory factor analysis. In this direction, we have revalidated various scales. I think you can easily connect with our studies, which I discussed with you. In these studies, we did study on demographic variables, as well as we revalidated scales in Indian setting. For example, we revalidated this WHO quality of life scale in original version as well as its Hindi version is with us.

Original version means as it is - English version, and translated in Hindi as well as we studied its psychometric properties. Scale of Positive and Negative Experiences as well as Flourishing Scale, original as well as Hindi adaptation or Hindi translation version, we have worked on Mental Health Continuum in Hindi as well as in English, Depression, Anxiety, Stress Scale Hindi as well as English. Connor-Davidson Resilience Scale, here I have highlighted this scale as per, you know, when we compare with other scales.

Because in these scales, we just establish as it is factor solution, but here I observed that it is not confirmed in its original form - where scholars mentioned that it has 5-factor solution and we rejected this 5-factor solution in our research and then explored new factor solution and finally we observed that 4-factor solution works better as compared to 5-factor solution. Then I think last year, we published paper on Hindi version.

In Hindi version both of them - both of them means original factor solution as well as 4-factor solution which we established in Indian setting on English or on original version - and observed that both of them are okay, not very good confirmation we had, but 4-factor solution was working better as compared to 5 even in Hindi translated version. We have studied psychometric properties of grit short scale, which has 8 items only, harmony in life scale and peace of mind scale, we translated here in Hindi because, both of them are constructed by some Chinese scholars and these are more appropriate in Asian cultures, can say explanation of well being in Asian cultures more in terms of harmony in life or peace of mind and both scales were working properly, but in peace of mind, in original version there are 7 items, 2 items negative and 5 were positive items.

When we revalidated here in Indian setting, in Hindi we observed that these 2 negative items are not working properly and that is why we shortened the scale and saying that 5 items of peace of mind working properly that is why we recommended to use these 5 items scale in Indian testing. When we revalidate, maybe revalidation is good as it is, but in some cases, we take some extra precautions or can suggest something else not exactly original mode of psychometric properties.

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- Meaning in Life Questionnaire (Steger et al., 2006) (Original version & in Hindi)
- Strengths & Difficulties Questionnaire (SDQ) Goodman (1997)
- VIA Character strengths (Hindi & English version)
- PERMA ((Seligman, 2011) scale developed by Kern et al. (2015) (Original & in Hindi & PERMA Profiler (Butler & Kern, 2016) (In Hindi)
- Warwick Edinbrugh Mental Wellbeing Scale (WEMWBS) A one-dimensional scale (Tennant et al. 2007)
- NEO-PI, Costa & McCrae, (1992).
- **Test Adaptation:** World Health Organization Quality of Life (WHOQOL-BREF, 1996) (original version)

For example, "How satisfied are you with your sex life?" was modified to "How satisfied are you with the respect you receive from others?" to make it culturally relevant for Indian adolescents.

- ✓ In brief, in some cases some scales were validated in their original form,
- ✓ In some cases we proposed new factor solution,
- ✓ In some cases shorter version of a scale was proposed (As some items were eliminated).

Similarly meaning in life scale we documented in Hindi as well as in English. Psychometric properties of strengths and difficulties questionnaire we had, value in action character strengths I discussed during the character strengths chapter. In Hindi, we said maybe one master virtue

having almost all 24-character strengths. In English version, we recommended 5-factor solution, not the six, which is theoretical one.

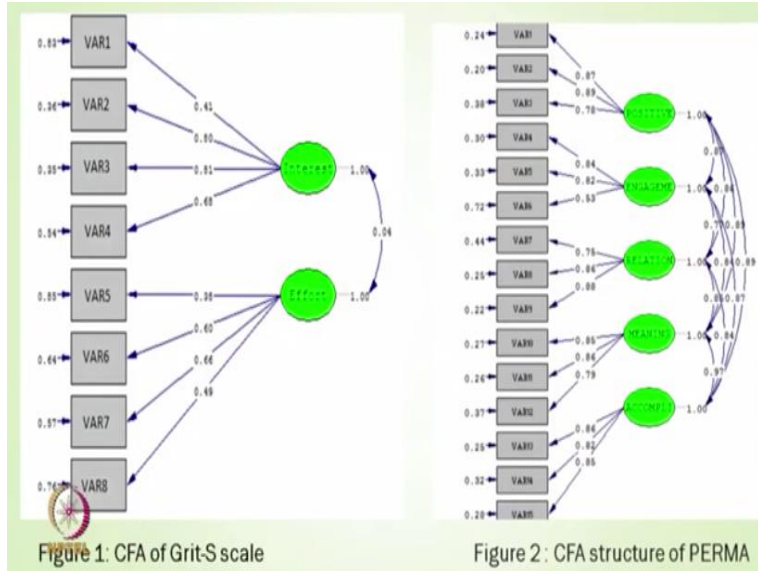
PERMA model in one scale where 15 items as it is was reflected in our study, but in another one, I think this is Karen's scale where we shortened this the psychological test. Similarly, Mental Well-being Scale, NEO-PI scale we worked and various other you know psychological test we have adapted; we have studied as it is their psychometric properties and observed that is working well. Along with this translation and revalidation, let us understand how do we adapt a psychological test.

In adaptation, actually we change nature of the questions as per our culture. For example, I think this is best example, which is from WHO Quality of Life Scale. In the original scale, this item is "how satisfied are you with your sex life". So, we observed that and scholars observed that this question is not suitable in Indian setting and that is why this item was adapted, and modified item was "how satisfied are you with the respect you receive from others".

So, because original item is not suitable to the culture and that is why as per cultural expectation, this item has been changed. So, this changed item is how satisfied are you with the respect you receive from others and in this case actually we first adapt items, which are not working in our culture and again we are supposed to study psychometric properties of the scale before using it in our researches. So, from this section, in brief we can say that in some cases some scales were validated in their original form.

In some cases, we proposed new factor solution. In some cases, shorter version of a scale was proposed as some items were eliminated and these items were not appropriate in the study and that is why eliminated shorter version, which is working in the given situation was promoted in the research.

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Just a small point to get a little bit more clarity between exploratory factor analysis and confirmatory factor analysis. In exploratory factor analysis, we use SPSS and we put the whole data and see how you factor solutions are reflecting in our research and we tried to match it with theory. We may eliminate number of items or we can land up on say 3-factor solution, 4-factor solution, 5-factor solution and we do trial-and-error again and again.

And try to find out most suitable factor solution, which is matching with our theory. On the other hand, in confirmatory factor analysis or when we revalidate the research, then the mode is totally different. In this case, we just go with the theory. For example, this scale is already established and our purpose is to revalidate or confirm this model. So here we have used a statistical software that is LISREL.

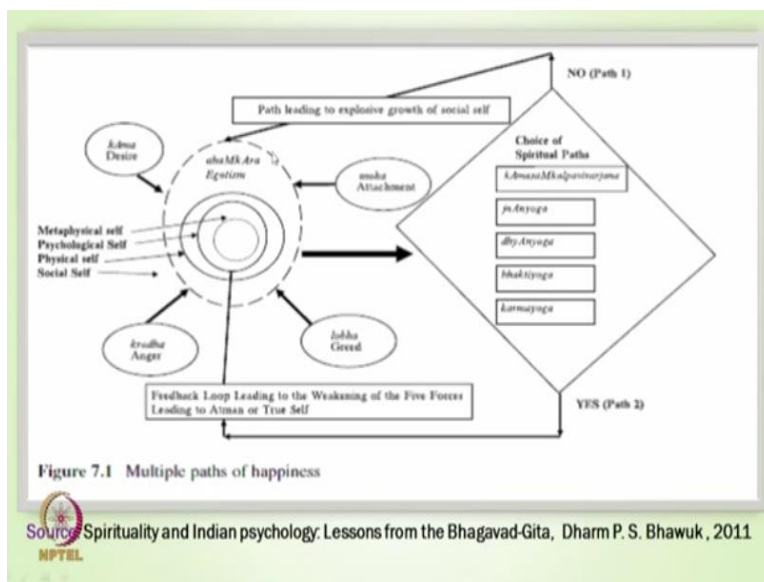
In this case, actually we are drawing all these things and we are saying that if we say interest, that is our first factor and we are actually dragging these lines and drawing these lines and saying that this first factor has these 4 items and second factor has these 4 items. So, we actually draw these lines in the software and along with our data set we enter this message and then finally we get results. In results, we have certain norms and we compare our results with these norms.

And then, finally say whether our model is good fit, moderate fit or this confirmatory factor analysis is not good here and if it is yes, then you can easily document your research. If it is not,

then you reject this confirmation and can explore it again and can say that the factor solution, which was in the original research is not confirmed here, that is why you selected another factor solution. It happened in our resilience scale, so Connor-Davidson's resilience scale.

So, first of all, we tried to confirm the model 5-factor model, which is the original one, but we could not confirm it. The results were quite poor. So, then we just say, we rejected this confirmation and now we would like to explore it once again in Indian setting and then we did exploratory factor analysis. So, there are various ways. There are various solutions. So as per your results, you have to take one or second or third options and whichever options you are taking, you have to document. Now another part in this section is psychological tests for Indian psychological constructs.

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This model has been taken from spirituality and Indian psychology. Lessons from the Bhagavad Gita. This model, I think simplest explanation could be *kam*, *krodh*, *moh*, *lobh*, these are the *vikaras*, which are reducing our well being. On the other hand, there are various parts of yoga, which may facilitate our well being or happiness. For Indian understanding that is good, but a hard core main stream psychologist would say do you have empirical data?


Can you prove it? So, for proving it, we have to have some psychological tests and just to think about it we have developed various psychological tests on *satchitananda*, on *anasakti*, *sukha-*

*dhuka*, *ashtanga yoga* - in which first 7 steps we have, excluding *Samadhi*, we have items on *dhyan*, meditation, on *yagnium* and all other *ang* or *ashtanga yoga* on all other domains. In *ashtanga yoga* scale, except *Samadhi*, we have items to test *ashtanga yoga* level on all except *Samadhi*, we have questions on all domains, *dhyan*, *dharna*, etc. *Sattva*, *rajas*, *tamas* scale, which was developed by David Wolf validated by us in Indian setting as well as in Czech's data and US data.

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**Scales Developed :**

- *Sat-Chit-Aanada* scale;
- *Anaskti* scale;
- *Sukha-Dukha* scale;
- *Ashtanga Yoga* scale;
- *Sattva, Rajas & Tamas* scale (Validated);
- *Vikaras* scale;
- *Swadhayay* scale etc.



And we studied psychometric properties of this scale in all the 3 cultures. We have developed *vikaras* scales, *swadhayay* scale and we would like to work on some other constructs if we observe these are really good to understand human nature.

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## Revalidation of the Sat-Chit-Ananda Scale, Singh, et al., (2016).

### Brief explanation of the 4 factors:

- 1) '*Chit*' - **Consciousness**: It is represented by four items (6, 8, 5, and 7) that focus on assuming full responsibility of one's thoughts, speech, feelings and action. ( $\alpha = .76$ )
- 2) '*Antahshakti*' - **Inner Strength**: This factor encompasses five items (17, 14, 16, 15, and 13) that capture the essence of taking initiative, executing one's plans with energy, even in the face of challenges. ( $\alpha = 0.76$ )
- 3) '*Sat*' - **Truthfulness**: It has been represented through five items (4, 1, 9, 3 and 2). These items basically reflect the quality of feeling connected with others and seeing goodness and positivity in nature and in other beings. ( $\alpha = 0.69$ )
- 4) '*Ananda*' - **Blissfulness**: It is represented in the scale by three items (11, 10, and 12). These reflect the essence of attaining detachment and consequent bliss captured in terms of not being disturbed by thoughts, events and problems. ( $\alpha = 0.64$ )

Let us understand how a psychological test defines particular construct or how a theory could define a particular construct. For example, we have worked on *satchitananda* and in this scale we finally concluded on 4-factor solutions and explanation of these 4 factors are first factor was chit or consciousness and it had 4 items. Its full responsibility of one's thought, speech, feelings and action were part of these questions.

Next factor was *anthashakthi* or inner strength. It had 5 items and these items capture the essence of taking initiative, executing one's plan with energy, even in the face of challenges. Next was sat or truthfulness, items explanation reflected the quality of feeling connected with others and seeing goodness and positivity in nature and in other beings. Last factor was *ananda* or blissfulness and there were 3 items.

These items reflect the essence of attaining detachment and consequent bliss captured in items of not being disturbed by thoughts, events and problems. So, to some extent I think you could understand our items are capturing *satchitananda* as a construct through these items. So that is the definition of *satchitananda* for us. So, in this case, operational definition of *satchitananda* is that much only.

If you have some other factors or some other explanation of *satchitananda* those are additional, not part of this psychological test. So, in psychological testing, you can say that is limitation also.

When we are doing psychological testing, in this testing we are saying that operational definition of this construct is as per these selected items only and we are excluding various other things, which may be part of that construct. So that is main limitation of psychological testing.

We should understand these psychological testing styles or psychological testing ways as per their limitations only. Similarly, I have taken one another example of *vikaras scale* which we have developed.

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Development and validation of *Vikaras Hindi Scale*,  
Sharma and Singh (2016)

- **Factor 1: Aantrik Krodha (Internalized Anger):** *Krodha* (Anger) is the emotional or affective component of aggressive behaviour, or at least of some kinds of it.
- In the present research, *Krodha* (Anger) was represented by two sets of factors. This factor represents internalization or mental expression of anger with items measuring the tendency of a person to hold a grudge against someone who wronged him/her, curse someone internally rather than indulging in outward confrontation etc.
- It also has reverse statements related to forgiving people who have done wrong to a person. This factor had a total of nine items. It accounted for 10.8% of the variance having loading range .40 to .74 and Eigenvalue of 6.93 was obtained.

Now when we are saying *vikaras*, we have observed these are the main factors, which are describing *vikaras* in the psychological test, for example, our first factor was on *Aantrik krodh* or internalized anger. *Krodh* is the emotional or affective component of aggressive behavior or at least some kind of it. In this *aantrik* behavior, we had both type of factors, here *krodh* was represented by 2 sets of factors.

The factors represent internalized or mental expression of anger with items measuring the tendency of a person to hold aggression against someone who wronged him or her, aggress someone internally rather than indulging in outward confrontation. It also has reverse statements related to forgiving people, who have done wrong to a person. So that factor is combination of positive and negative items. If you have very low score on forgiving people, that is high on *krodh* or internalized expression of *krodh*.



I am just skipping these values because these values are actually showing us how these psychometric properties supporting factor #1.

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**Factor 2: Moha (Attachment):** It includes statements related to materialism and attachment to worldly things and relations.

- This factor has five reverse scored items related to insignificance of material amenities, not having materialistic desires in life etc.
- This means that a person scoring high on this factor will be low on Moha (Attachment). This factor accounted for 7.51% of the variance having loading range from .45 to .76 and Eigenvalue of 3.18 was obtained.

**Factor 3: Pratyaksh Krodha (Externalised Anger):** Externalized anger represents the tendency of exhibiting physical expressions of anger.

- It has five items related to explicit use of foul language to express anger, indulgence in overt/physical fighting with others etc.
- This factor accounted for 7.43% of the variance with loading range from .45 to .68 and Eigenvalue 2.67 was obtained.

Factor #2 attachment. It includes statements related to materialism and attachment to worldly things and relations. The factor has 5 reverse score items related to insignificance of material amenities, not having materialistic desire in life, etc. So, all questions were positive, a person has high score on these questions then low *moh*, he would be having. Similarly, some psychometric properties have been shown to establish this factor.

Factor 3, that is *pratyaksh krodh* or externalized anger. This anger represents the tendency of exhibiting physical expression of anger. It has 5 items related to explicit use of foul language to express anger. Indulgence in overt physical fighting with others and these are some psychometric properties, let us skip, because that is not your objective to know.

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Factor 4: *Lobha* (Greed): It is an extreme or excessive desire for resources, especially for property such as money, real estate, or other symbols of wealth.

➤ It has five items in total, related to desire of owning material things in excess, for example like property, cars etc.

Factor 5: *Ahankara* (Pride/Ego): It refers to pride of one's possessions or material wealth, desiring praise and authority over others (Dhammapada, 5:73-74) and idea of me and mine (Bhagavath Gita, 11:4)

➤ It has five items related to one's tendency to be boastful of one's accomplishments, being overindulgent in self, the desire to be always in a position of authority over others etc.

Factor 6: *Kama* (Lust): It is Indian notion of pleasure, desire, passion with or without sexual connotations.

➤ It has three items related to attraction towards anatomical beauty and materialistic pleasures.

Factor 4 was *lobh* or greed. It is an extreme or excessive desire for resources, especially for property such as money, real estate or symbols of wealth. Similarly, another factor was *ahankara*, pride or ego, so it is one's possession or material wealth, desiring praise and authority over others. It has 5 items, which are related to one's tendency to be boastful of one's accomplishments.

Being over indulgent in self and the desire to be always in a position of authority over others. So, these are the explanations of *ahankara*. Factor 6 was *kama* or lust. It is Indian notion of pleasure, desire, passion with or without sexual connotations. It has three items related to attraction towards anatomical beauty, materialistic pleasure, etc.

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Factor 7: Tamas (Apathy): It depicts self-centeredness, ignorance and laziness. The factor constitutes of four items describing the tendency of a person to be lazy in general, be just concerned about oneself, etc.

**Main points:**

- ✓ Association between Theory & test-items of the scale.
- ✓ Reliability & validity (correlation) (not based on 'All or None principle' but 'matter of degree'.
- ✓ Inherent limitations of the test.
- ✓ Limitations of Psychological testing.

So, factor 7, *tamas* or apathy, it depicts self centeredness, ignorance, and laziness. The factor constitutes 4 items describing the tendency of a person to be lazy in general, be just concerned about one self. So again, I have given this example only just to share with you. When I am saying *vikaras* as per this psychological test, then it means I am talking about these 7 factors having particular definitions and definitions are highly connected with these items.

And that is *vikaras* meaning to me, when I am using the psychological test. So, if someone is saying there could be some other explanations or other factors, so these factors are not part in my psychological test. That is why that is not part of operational definition and we should understand psychological testing in reference to these factors only. So, from these explanations, our main points to learn are there should association between theory and test items of the scale.

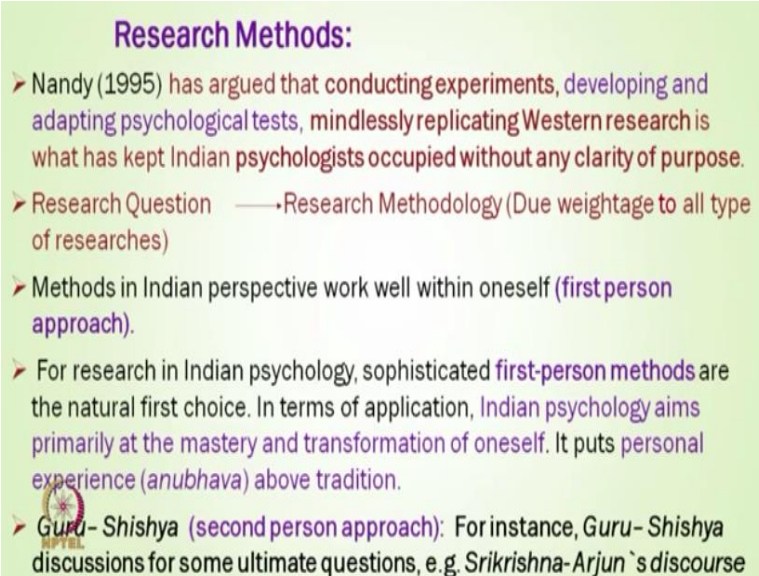
And we should understand these tests items are capturing our behavior that is why these test items are actually representing that theory. If there is gap between this theory and these test items, then limitation of your test and this test is not very valid test. Second point is in psychometric properties, we study reliability and validity. Most of the time, by using a statistical analysis, that is correlation. This correlation is not based on all or none principle, yes or no.

But that is matter of degree, for example, when we are saying that this scale is reliable, at 0.07 level, then we are considering that this correlation is 0.7 or 70% only, 30% we are not claiming.

Similarly, when we are saying construct validity and having certain correlation, this correlation may be 0.7, which is acceptable, which is counted good, but we know 30% correlation is not there. So, we should know limitation of psychological testing.

Along with this psychological testing limitations, we must understand inherent limitations of the test as well as limitations of psychological testing. So, we know, I think almost all research methods have their own limitations as well as strengths. So similarly, psychological testing also has its limitations and we should understand results with these limitations background only.

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**Research Methods:**

- Nandy (1995) has argued that conducting experiments, developing and adapting psychological tests, mindlessly replicating Western research is what has kept Indian psychologists occupied without any clarity of purpose.
- Research Question —→ Research Methodology (Due weightage to all type of researches)
- Methods in Indian perspective work well within oneself (first person approach).
- For research in Indian psychology, sophisticated first-person methods are the natural first choice. In terms of application, Indian psychology aims primarily at the mastery and transformation of oneself. It puts personal experience (*anubhava*) above tradition.
- **Guru- Shishya (second person approach):** For instance, Guru- Shishya discussions for some ultimate questions, e.g. Srikrishna- Arjun `s discourse

We may have various other research methods and as per our research question, we should decide which research methodology will be the best one and due weightage to all research methods we should give as per our research question or research design. Nandy in 1995 has argued that conducting experiments, developing and adapting psychological tests, mindlessly replicating western research is what has kept Indian psychologists occupied without any clarity of purpose.

So, I think the statement warns us to have purpose in our research and we should know what is clear purpose of our research as according to our research question and research methodology - we should know what it is and how we should use it in our research. Method in Indian perspective - work well within one self - first person approach that is, and if your research question is more experiential one, then one could choose first person approach.

For research in Indian psychology, sophisticated first-person methods are the natural first choice. In terms of application, Indian psychology aims primarily at the mastery and transformation of one self. It puts personal experience or *anubhav* above traditions. So again, I am repeating as per this Indian psychological mode, if you observe your research question needs more experiential thoughts or *anubhav*, then one could go with such kind of methodology.

Another one is second person approach, can say guru-shishya discourses or discussions. For example, guru-shishya discussions for some ultimate questions for example, Sri Krishna-Arjun's discourses could be part of our research or for understanding human behavior. Generally, the methodology of Western Psychology focuses on the study of the other person, third person approach.

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- Generally, the methodology of western psychology focuses on the study of the "other person" (third person approach), Indian psychology (as other eastern psychologies) focuses on the study of "own-self".
- We need both first person and third person approach to research to bring about desired changes in human societies.
- Thus, the Indian thought systems have 'experiential-cognitive' bases. Methodologically speaking, *adhyayana* (study) or *swa dhya ya* (self-study), *abhya sa* (practice), *anubhu ti* (experiencing), and *prama na* (demonstration) are important ingredients of any study.
- Methods of yoga and meditation have been used for centuries to test experiment and empirically validate higher mental states.

So Indian psychology as other Eastern psychologies focuses on the study of oneself or own-self. So, this is main difference between first person and third person approach. So western methodology or western psychology focusing on third person and this side it is more on oneself or own-self. We need both first person and third person approach to research, to bring about desired changes in human societies.

Thus, the Indian thoughts system have experiential cognitive basis. Methodologically speaking *adhyayan* or study, *swadhay* or self study, *abhyas* practice, *anubhuti* experiencing, and *praman* or demonstration are important ingredients of any study. So as per your research question, you could study or *adhyayan* or *swadhay* or self study, practice, *anubhuti* or *praman* or demonstration, which aspects are more important in your research questions and accordingly you could decide what kind of research you want to do.

So, we have to have broad basket of our research methods. Methods of yoga and meditation have been used for centuries to test experiment and empirically validate higher mental states.

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- **First Person, Second person & Third Person Approach :** As a science of a multi-layered being, comprising of a subtle inner being, physical being and social being (Bhawuk, 2005, 2008a; Kumar, 2008); its propositions **could not be tested by the accepted empirical methods of inquiry alone** but require a broad spectrum of methodologies, calling for a wise and balanced deployment of **first person, second person and third person perspectives** (Bhawuk, 2008b).
- The primary focus is on **how people can lead a purposeful and wholesome life**. Both *para-vidya* (knowledge of the Self) and *para-vidya* (empirical knowledge) are considered necessary to **live a harmonious life in this world**.

First person, second person and third person approach when we compare and discuss about them, then professor Bhawuk and professor Kumar's statement is "as a science of a multi layering being comprising of subtle inner being, physical being and social being". Its propositions could not be tested by the accepted empirical methods of inquiry alone, but require a broad spectrum of methodologies calling for a wise and balanced deployment of first person, second person and third person perspectives.

So, again these statements focused on all perspectives whether it is first, second- or third-person approach. The primary focus is on how people can lead a purposeful and wholesome life. Both knowledge of the self or *pravidhya* and *apraavidhya*, empirical knowledge is considered

necessary to live a harmonious life in this world. So, knowledge of self as well as empirical knowledge, both are important for our research. Thank you. I will keep this topic, continued in the next class.