

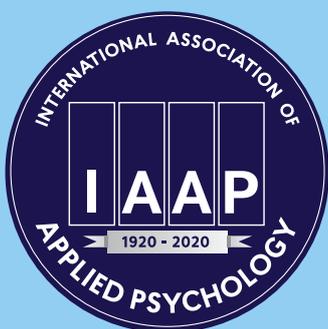
# APPLIED PSYCHOLOGY AROUND THE WORLD

Young Researchers in Applied Psychology

*March 2019*

IAAP Bulletin  
*Volume 1, Issue 1*

ISSN: 2639-6521



## Table of Contents

<b>Editorial .....</b>	<b>2</b>
<b>Advanced Research Training Seminars 2018: A new ARTS model.....</b>	<b>4</b>
<b>Individual and Social Factors Influencing Physical Activity through a Multicultural Lens ....</b>	<b>7</b>
<b>A cross-cultural comparison of mental health literacy and myths.....</b>	<b>16</b>
<b>The association of self-compassion, resilience and coping.....</b>	<b>24</b>
<b>Mindful Contextualization .....</b>	<b>33</b>
<b>Choosing Entrepreneurship: Cross-Cultural Insights .....</b>	<b>45</b>
<b>Development, Test and Validation of the Triangle Scale of Chronic Job Insecurity (TSC-JI)</b>	<b>53</b>
<b>Commentary: ARTS has Ancestors .....</b>	<b>61</b>
<b>Mission Statement .....</b>	<b>67</b>
<b>How to Prepare Articles and News Items for APAW .....</b>	<b>67</b>





Pr. Dr. Christine Roland-Lévy, President of IAAP (2018-2022)

## Editorial

In the name of the International Association of Applied Psychology, I am happy to introduce a new online thematic publication, replacing what used to be known as IAAP Bulletin, which was printed every six months and prepared by Valerie Hearn, whom I wish to thank again here for her long term dedicated work for IAAP. Valerie had introduced an interesting concept with Robert F. Morgan's *Commentary*; Robert is once again providing his commentary on the topic of this first issue (Volume 1, Issue 1), which is about *Young Researchers in Applied Psychology*, focusing on the Advanced Research Training Seminar, [ARTS](#). I thank Robert for his great work with IAAP, since 1982, when he created Division 7, on Applied Gerontology.

So, we now have this new publication: *Applied Psychology Around the World (APAW)*, with three thematic issues per year. The purpose of APAW is to share reports and news about applied psychology, through theme-based articles written by members of the International Association of Applied Psychology. The themes are determined in advance so that you can prepare a paper in relation to the theme of the issue.

We are enthusiastically pursuing our work within the United Nations in connection to IAAP Special Projects and Task Forces, which allow us to work on most of the UN Sustainable Development Goals, SDGs:



The projects and task forces are thematic and they bring together competences from members from different Divisions. The common goal of all the projects is 'How can Applied Psychology contribute to improving the World...'

The six key projects are, for the time being, the following:

Gender Equality	chaired by Kristina Potocnik
Climate Change	chaired by Terry Hartig
Quality Education for all	chaired by Frédéric Guay
Promoting Decent Work for all	chaired by Annamaria Di Fabio
Immigrants and Refugees	chaired by Fanny Verkampt
From Terrorism to Peace building	chaired by Maria Paz Garcia-Vera

The coming issues will be in relation with the themes of these projects, but not only. The themes of the upcoming issues and article deadlines are as follows:

- Vol. 1. Issue 2: *Gender equality*, papers due by May 1<sup>st</sup> (June 2019 issue)
- Vol. 1. Issue 3: *Terrorism & Peace building*, papers due by September 1<sup>st</sup> (October 2019 issue) Vol. 2.
- Issue 1: *IAAP's Centennial Anniversary*, papers due by December 1<sup>st</sup> (January 2020 issue)
- Vol. 2. Issue 2: *Climate Change*, papers due by May 1<sup>st</sup> (June 2020 issue)
- Vol. 2. Issue 3: *To be determined*, papers due by September 1<sup>st</sup> (October 2020 issue)

The Editorial Board of the APAW looks forward to receiving your articles as well as your ideas for further coming issues. Please read the information about *Applied Psychology Around the World* (APAW) at the end of this issue and online at: <https://iaapsy.org/about/apaw/>.

APAW welcomes submissions of papers addressing the themes of each issue; the papers can include scientific research projects, data analysis, information of various kinds (books on the topic, conferences, etc.), and practice related to applied psychology around the world on the theme of the concerned issue.

Besides this new publication and our work around the UN SDGs, as the President of the International Association of Applied Psychology, it is my pleasure to take advantage of this Editorial to share a few points about IAAP. At the closing of the last ICAP in Montreal, on July 1<sup>st</sup> 2018, I started my term as President of IAAP with a great (very feminine) team. Lourdes Munduate, who already was IAAP's Treasurer, is now working on building a provisional budget for each year, taking into account the changes that occurred in relation to the introduction of our Operation Center, now costing more money on a regular basis but doing so much for us and in particular in relation to members (Thanks to Bruce Davis, Kortney and Barbara). In fact, Lourdes will be able to present to the Board of Directors, during our next Board of Directors' (BOD) meeting, which will take place in Prague in July 2020, a two-year provisional budget, which will include a (small) budget for each Division with a project that requires money. In our team, we have Christina Sue-Chan who combines two roles in one: the role of Secretary General and the role of Communication Officer; she is helped around mass media communication by Pedro Altuny, the President of the Student Division. We then have a Membership Officer, Marie-Hélène Pelletier, who works closely with our Division Officer, Lyn Littlefield; among the activities that they are preparing, we have webinars to which you are all invited. The Executive Committee is completed by our Past-President, Janel Gauthier, who is the man in this team! Unfortunately, this time we have no President-Elect - which I regret -; I believe that we need to revise that part of our *Rules of Procedure* in order to be able to start as a full team at the beginning of the 4-year term of a given President; moreover, four years as President-Elect are needed to be well prepared for becoming President, and, if the President needs to be replaced for any reason, it is necessary to have a President-Elect during the full term.

Before our BOD meeting in Prague, we will have elections for the IAAP President-Elect, by all the members of IAAP; we will also hold elections for the President-Elect of each of our Divisions, by the members of the concerned Division, so be sure to be a member in good standing at the time of the election process, which will soon start, and to select your four Divisions. During the BOD, we will have elections, by the BOD members, for the position of Secretary General of IAAP, for a four-year-term, even though the Secretary General was elected in Montréal for a two year term in order to avoid having to renew all our team at the same time...

We are also actively preparing our many **Centennial Celebrations**, including the concluding event: the Centennial Congress of Applied Psychology that will take place in **Cancun, Mexico, December 13<sup>th</sup> to December 17<sup>th</sup> 2020**. It will be a memorable event, so please make sure to add these dates to your calendar!

## Advanced Research Training Seminars 2018: A new ARTS model

Richard Griffith<sup>1</sup>, Jérémy E. Lemoine<sup>2,3</sup>, Jesse R. Caylor<sup>1</sup>, Kayla Bigerton<sup>1</sup> & Mina Milosevic<sup>1</sup>

The Advanced Research Training Seminars (ARTS), co-sponsored by the International Association of Applied Psychology (IAAP), the International Association of Cross-Cultural Psychology (IACCP) and the International Union of Psychological Science (IUPsyS), is a workshop that has taken place every two or four years since 1992 in conjunction with major international congresses of psychology: the International Association for Cross-Cultural Psychology, the International Congress of Applied Psychology and the International Congress of Psychology. The aim of the ARTS is to promote scientific research and scholarship skills by providing training in research methodologies in addition to knowledge about specific content areas of psychology. Until 2014, ARTS consisted of 2-3 independent seminars held, each lasting from two to three days. The topics selected for ARTS were diversified. Some of them focused on methodology (e.g., Qualitative Research Methods in ARTS 1996, organized by Marta Young from Canada and Alistair Ager from the UK) while others focused on a specific topic of psychology (e.g., Social-Cognitive Neuroscience in ARTS 2010, organized by Shihui Han & Yina Ma from China).

Since the inception of ARTS, the IAAP, IACCP and IUPsyS provided funding to support the program. However, IACCP announced in July 2012 its withdrawal from the ARTS, and IUPsyS did the same in the fall of 2013. Despite the loss of two main partners and sources of funding and support for the ARTS, IAAP decided to continue offering the ARTS.

At the beginning of 2015, a working group was created, consisting of Richard Griffith, Jérémy E. Lemoine and José M. Peiró (Chair) to review the ARTS. The work group proposed a different model for ARTS 2018.

The new model of ARTS is based around four main components:

1. **Research:** ARTS participants work on a project with their peers in groups of three to five people. Team projects are defined and led by the team leaders and consist of the creation of a research study on a specific topic.
2. **Presentation:** Teams will present their team project at a symposium during the International Congress of Applied Psychology (ICAP) 2018.
3. **Learning:** Participants have the opportunity to follow several online seminars on general topics (e.g., global collaboration, funding applications).
4. **Feedback:** During ARTS, participants have the opportunity to present their own research (poster) and to receive feedback from their peers and team leaders.

The ARTS committee was created at the beginning of 2017. It is comprised of Richard Griffith, Jérémy E. Lemoine, Jesse R. Caylor, Kayla Bigerton and Mina Milosevic. The ARTS committee was responsible for the selection of the candidates, the organization of the webinars and events and support for the ARTS participants.

Six ARTS team leaders were selected on the basis of their experience and the feasibility of their project. The topic area and anticipated student interest were also considered with the aim to have projects that were diverse and representative of different domains of applied psychology.

Twenty-two students were selected on the basis of their experience and motivation. Their country of provenance was also considered with the objective to have students from various continents and countries. All selected students received their first or second project choice.

In May 2018, the six teams started to work on their project via distance communication. ARTS was held on the June 24<sup>th</sup> and 25<sup>th</sup>, 2018. Unfortunately, four students could not come to ICAP 2018 due to Visa or personal issues. Therefore, ARTS 2018 was composed of 28 participants including six team leaders and the four members of the ARTS committee. Figure 1 displays the distribution of ARTS participants by country. The two-day workshops allowed teams to meet prior to their project proposal presentations at ICAP (see photo taken in the ICAP in Montréal, 2018, below). Following ICAP, the six teams pursued their project. The six project proposals are presented in this edition of the IAAP Bulletin.

---

<sup>1</sup> Florida Institute of Technology, FL, USA

<sup>2</sup> University of East London, UK

<sup>3</sup> ESCP Europe Business School, UK

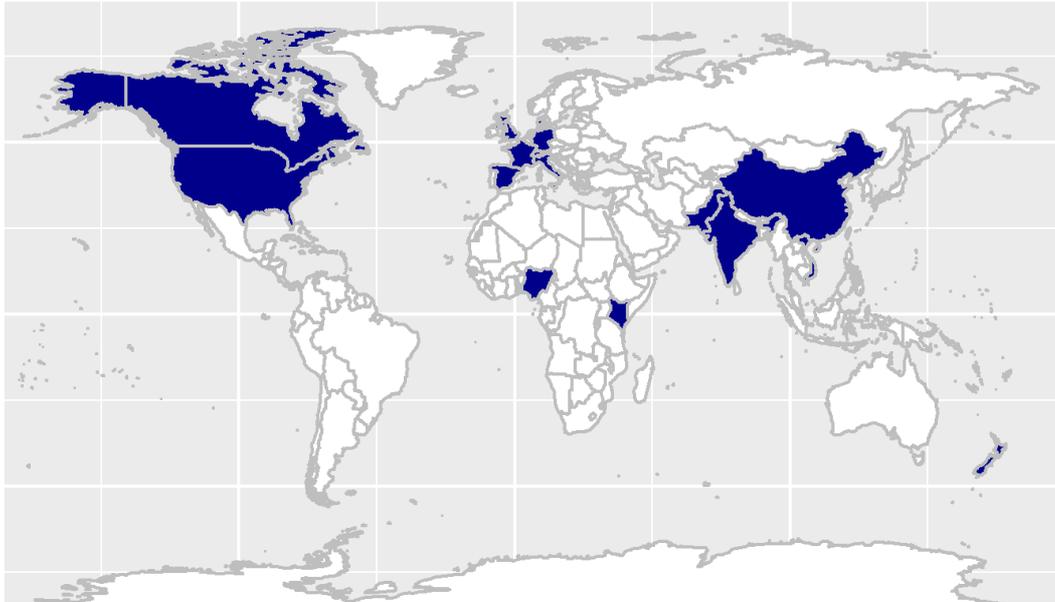


Figure 1. Distribution of ARTS participants by country

The first project is conducted by Maya Pilin, Laura Seidel and Si-Chu Shen under the supervision of Stefano De Dominicis. It looks at factors which influence physical activities and is entitled “Individual and Social Factors Influencing Physical Activity through a Multicultural Lens: A Self-Determination and Social Identity Perspective”. The novelty of this project rests in its investigation of both individual and social factors in the prediction of physical activity, whereas previous research studies only focused on one or the other.

The second project, “Multicultural approach to the study of mental health literacy and myths on trauma and catastrophes”, is led by Clara Gesteira and conducted by Martina Speck, Rayna Sadia, Haziq Mehmood and Samantha Chan. It describes that increasing literacy linked to mental health can help people cope better when facing traumatic situations. This project aims to investigate an underresearched area of psychology: the myths associated with trauma following disasters and catastrophes whether natural (e.g., earthquakes) or provoked by mankind (e.g., terrorist attacks).

Led by Winnie W.Y. Yuen and carried out by Bukola V. Bada and Quynh-Anh N. Nguyen, the third project is entitled “The association of self-compassion, resilience and coping in relation to psychological well-being among youth: A cross-cultural study of Hong Kong, Nigeria and Vietnam”. Anchored in positive psychology, it seeks to investigate how resilience, adaptive coping and self-compassion can increase mental health. In addition, this project goes beyond the traditional Western-Eastern cross-cultural comparison and focuses on three countries with substantial economic and religious differences.

The fourth project, carried out by Laura K. Johnson, Andrea Antoniuk, Amna Noureen and Khadija Misbah and under the supervision of Rajneesh Choubisa, investigates the measurement of mindfulness. Named “Mindful contextualization: Exploring the limits of cross-cultural mindfulness measurement”, this project examines measurement equivalence – a very important research method aspect which should be systematically inspected in cross-cultural research. This project, based on a systematic review, seeks to investigate the measurement equivalence of the Kentucky Inventory of Mindfulness Skills.

Led by Laurent Sovet and carried out by Chiara Annovazzi, Thuy Anh Ngo and Namita Ruparel, the fifth project is entitled “Choosing entrepreneurship: Cross-cultural insights into experiences of young entrepreneurs”. Through the use of interviews, this project aims to investigate how young people studying entrepreneurial skills perceive their experience. The originality of this research is its use of a phenomenological approach to get insights of how an educational experience teaching entrepreneurial skills is experienced by young people.

The sixth and final project is supervised by Morteza Charkhabi and conducted by Laura Seidel, Clément Belletier and Sajjadi Fatemeh. This project, entitled “Development, test and validation of the Triangle Scale of Chronic Job Insecurity (TSC-JI)”, seeks to validate a new measure of job insecurity which takes into consideration both chronic

quantitative and chronic qualitative job insecurity. The novelty of this instrument is to conceptualize and assess job insecurity at three levels: chronic stressor, chronic stress and chronic strains.

These six projects are in progress and aim to be completed by the end of 2019. The next ARTS program will start in Spring 2022 in conjunction with ICAP 2022 in Beijing. The call for team leaders and for participants will start in Fall 2021.



# Individual and Social Factors Influencing Physical Activity through a Multicultural Lens A Self-Determination and Social Identity Perspective

Maya Pilin<sup>1,2</sup>, Laura Seidel<sup>3</sup>, Si-Chu Shen<sup>4</sup>, & Stefano De Dominicis<sup>5</sup>

## Abstract

Physical activity is influenced by both individual factors (i.e. self-efficacy, grit, etc.) as well as social factors (i.e. group identification). However, few studies have examined both of these factors in conjunction. The current study aims to examine the individual and social factors that lead to increased physical activity through a multicultural lens as well as to develop a brief intervention to increase intentions to exercise. The participants (expected n = 300) will be recruited from North America, Europe, and Asia through mTurk. Study 1 will be an exploratory study in which participants will complete a series of measures of individual and social factors that have been demonstrated to influence physical activity. Participants from Eastern and Western countries will be compared on these measures to determine which factors are most important for each culture. In Study 2, participants will be randomly sorted into a Control or a Vested Interest group. Participants in the Vested Interest group will read a brief scenario intended to increase their intentions to exercise. We expect participants in the Vested Interest Group to express greater intentions to exercise than the Control group. The implications of the study will be discussed within the context of Social Identity Theory as well as Self-Determination Theory.

**Keywords:** Physical activity, vested interest, self-determination, social identity, intercultural

## Introduction

Despite its numerous health benefits, not all adults participate in regular physical activity. For example, a U.S. survey conducted between 2010 and 2015 found that only 22.9% of adults nationally met national guidelines for aerobic and muscle-strengthening activities (Blackwell & Clarke, 2018). Accordingly, many of the World Health Organization (WHO) member states have included reducing physical inactivity by 10% as one of their goals for 2025 (World Health Organization, 2018). However, the factors that lead to physical activity are not well understood. Moreover, most studies focus on either individual or social factors in physical activity and ignore the potential interplay between these factors. This paper will review the current research on both individual and social factors related to physical activity. Furthermore, we will elaborate on an experimental protocol used to measure and influence these factors. Finally, we will attempt to discuss the multicultural context of these factors.

## Individual Factors Related to Physical Activity

Extant studies have examined numerous individual factors related to physical activity. The bulk of the research has occurred in the study of self-efficacy (Bandura, 1977). A meta-analysis of physical activity interventions focused on self-efficacy found that such interventions were effective in influencing self-report self-efficacy, though the effect size was small ( $d = 0.16$ ) (Ashford, Edmunds, & French, 2010). Moreover, both vicarious experience and feedback acted as significant moderators that were positively associated with self-efficacy. In Bauman and colleagues' (2012) paper, self-efficacy was correlated with physical activity in four out of seven identified reviews. Moreover, self-efficacy was able to predict how well participants would adhere to a physical exercise program (Sharma, Sargent, & Stacy, 2005), and collective self-efficacy was able to predict ice-hockey team performance (Feltz & Lirgg, 1998). Therefore, self-efficacy has consistently been identified as an important individual factor in physical activity, although the strength of its effect has not been consistently determined.

Personality factors have also been examined several times within the context of physical activity decisions. In a meta-analysis, Wilson and Dishman (2015) found that Neuroticism, one of the Big Five factors, was negatively associated with physical activity. Meanwhile, Conscientiousness, Extraversion, and Openness were positively associated with physical activity. Several explanations of the reasons behind these associations have been

---

<sup>1</sup> Maya Pilin, Department of Psychology, University of British Columbia.

<sup>2</sup> Correspondence concerning this article should be addressed to Maya Pilin, Department of Psychology, University of British Columbia, Kelowna, BC, Canada - Contact: mayapilin@alumni.ubc.ca

<sup>3</sup> Laura Seidel, School of Psychology, University of Ottawa.

<sup>4</sup> Si-Chu Shen, Institute of Psychology, Chinese Academy of Sciences.

<sup>5</sup> Stefano De Dominicis, Department of Nutrition, Exercise and Sports, University of Copenhagen.

proposed. For example, Wilson and Dishman (2015) posited that the negative association with Neuroticism might lie in its association with self-consciousness, which may affect physical activity choices, or its association with increased autonomic arousal, which may result in exercise becoming anxiety-provoking. Related to Conscientiousness, some physical activity research is delving into grit as a potential factor. In a 2013 study, Reed, Pritschet, and Cutton found that grit was able to predict moderate and high-intensity exercise behaviors while Conscientiousness was not. Therefore, numerous personality factors might be involved in physical activity choices in adults.

Finally, within the framework of attitude strength as a moderator of the attitude-behavior relationship (e.g., Crano, 1995), few studies have measured vested interest as a potential individual factor related to physical activity. Vested interest can be defined as an individual's belief that an action will be both important to them as well as being "hedonically-relevant" (De Dominicis et al., 2014, p. 365). Vested interest has been found to be moderated by the salience of the action, the certainty and immediacy of consequences, as well as by self-efficacy (Crano & Prislín, 1995). While vested interest has not been studied in relation to physical activity as of our knowledge, past studies have shown that vested interest interventions can change behavior (i.e. flood preparedness, cf. De Dominicis et al., 2014). Due to its relationship with self-efficacy, vested interest is potentially an important factor in physical activity and will be further explored in this study.

### **Social Factors Related to Physical Activity**

Several environmental factors have also been identified as pertaining to physical activity decisions. Specifically, researchers have discussed the influence of injunctive norms (norms as to what is appropriate) and descriptive norms (norms as to how many other people perform a behavior). Such norms were able to influence individual decision-making in regard to many different behaviors, from health-related (e.g., Larimer, Turner, Mallett, & Geisner, 2004) to sustainable behaviors (e.g., Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). A more recent study of adult women in Australia found that social norms were able to predict exercise behaviors after controlling for social support (Ball, Jeffery, Abbott, McNaughton, & Crawford, 2010). Some controversy has arisen in social norms research regarding potential boomerang effects (see Schultz et al., 2007). However, a recent pilot study of descriptive and injunctive norm feedback for young adults completing a physical activity program found that while providing combined descriptive and injunctive norm feedback was effective, descriptive norm feedback did not result in a boomerang effect (Wally & Cameron, 2017). More research regarding the impact of social norms in adults is required, however, it seems that this is a relevant factor in physical activity.

Moreover, group identification has also been recognized as a potential factor influencing physical activity. Grant, Hogg, and Crano (2015) found that self-efficacy mediated the relationship between group identification and physical activity. Specifically, individuals who identified with a group that did physical activity increased their levels of self-efficacy and thus began doing more physical activity themselves. The authors suggested that influencing individuals to identify with a social group that is physically active should be explored as a factor in future physical activity interventions. Moreover, group norms have been found to interact with group identification. For example, one study of adolescents found that group identification moderated the influence of group norms of exercise behavior, such that only individuals who strongly identified with their group were influenced by group norms (Chatzisarantis, Hagger, Wang, & Thøgersen-Ntoumani, 2009). However, fewer studies have examined group identification than other social factors and more are required before we can evaluate the relevance of this factor.

### **Reciprocal Transaction between Individual and Environmental Factors**

While numerous studies have examined individual or social factors, little emphasis has been placed on examining these factors in unison. One of the few such studies, conducted by Petosa, Suminski, and Hartz (2003), found that both social supports, a social factor, and self-regulation, self-efficacy, and outcome expectancies, among other individual factors, significantly contributed to the prediction of physical activity. While Petosa and colleagues (2003) used the social cognitive theory as their framework, several other theories that combine individual and social factors have been proposed. This study will make use of the Self-Determination Theory (SDT; Ryan & Deci, 2000). This macro-theory of human motivation encompasses several sub-theories. One that has been effective in explaining motivation toward physical activity is the Basic Psychological Needs theory (Deci & Ryan, 2008). This sub-theory focuses on the psychological needs of competence, relatedness, and autonomy, and examines how the satisfaction (or lack of) of these needs influence motivation and how social factors affect these needs. In a qualitative study of adherence to a physical activity program, a participant who lapsed and then re-adopted the program expressed that increased autonomy was a key factor in re-adoption and that relatedness and competence played a role in her enjoying the program in the first place. The women who had adhered to the program throughout expressed that both the needs of competence, autonomy, and relatedness were fulfilled through the program

(Kinnafick, Thøgersen-Ntoumani, & Duda, 2014). Therefore, the SDT can be applied to explain factors in the engagement and maintenance of physical activity (Hagger & Chatzisarantis, 2008). Moreover, while SDT has been found to be applicable across cultures in many domains, primarily within the workplace (Deci et al., 2001), it has yet to be fully applied across cultures in regard to physical activity. There has been a cross-cultural examination with SDT and physical activity support but specifically in regard to adolescents (Hagger, Chatzisarantis, Barkoukis, Wang, & Baranowski, 2005). Our study aims to fill these gaps in the literature and further the application of SDT, both cross-culturally and with physical activity

Along with SDT, the Social Identity Theory (SIT; Hogg, Terry, & White, 1995; Tajfel & Turner, 1979) proposes that individual behavior is influenced by belonging to a group. Specifically, individuals who belong to a group often depersonalize their own behaviors and change them to match those of the group (Stevens et al., 2017). Yuki (2003) conducted a cross-cultural examination of SIT across North American and East Asian cultures and suggested that group behavior within the two cultures may potentially derive from different cognitive foundations. Given that a variety of psychological processes have been identified in different societies, there is a need for further investigation into social and structural factors that aid in the development of different processes across cultures (Yuki, 2003). Expanding upon this, we aim to identify psychological processes that contribute to the participation and maintenance of physical activity across cultures. SIT has been applied to physical activity in a study by Dunlop and Beauchamp (2011), who found that individuals who feel that they are similar to others in a physical activity group that they belong to will increase their own levels of physical activity. Few studies have used this framework specifically to examine physical activity, but the studies on social norms and social identification reviewed above are related to the concepts described in SIT.

### **Physical Activity through a Multicultural Lens**

Even fewer studies have examined multicultural differences in individual and environmental physical activity factors. The extant research has found that levels of physical activity vary between countries, particularly those with differing income levels. For example, individuals in low-income countries mainly participate in physical activities within the occupational, household, and transport domains, as opposed to individuals in high-income countries, whose physical activity falls within the leisure domain (Macvinen, Bauman, & Abouzeid, 2012). Moreover, high-income and low-income countries have different correlates of physical activity. For example, parental support does not correlate with increased physical activity in low and middle-income countries (Bauman et al., 2012). Therefore, existing research has demonstrated several cultural differences regarding physical activity, although it is essential that more research is conducted, as such differences hint that physical activity interventions will not be effective across cultures if not kept in mind and incorporated.

### **Aims and Hypotheses**

The current study has several goals. The first goal is to examine the roles and interactions of individual factors, such as vested interest, grit, self-efficacy, and anxiety, as well as social factors, such as group identification and social norms, on physical activity. The relevance of these factors will be discussed within the frameworks of the Self-Determination Theory and the Social Identity Theory. The second goal is to determine how these individual and social factors vary between cultures. Finally, the third goal is to develop a brief intervention that will manipulate participants' vested interest in physical activity and to determine whether this intervention increases intentions to exercise. As such, we will first conduct an exploratory online survey of adult participants that will include measures of the factors discussed above. This survey will be administered online and aimed at residents of both North American and Western European countries, as well as Eastern countries, such as China. The responses of participants in these countries will be compared. The second study will include an online manipulation to increase vested interest and online measures of intentions to exercise in the future. The second study will also recruit adult participants from both Western and Eastern countries. As the first study is exploratory, we do not have any hypotheses regarding its results. Nevertheless, we expect to find some differences between Eastern and Western countries in regard to social and environmental factors. We expect physical activity to be higher for participants who exhibit high levels of all variables, except for those that are negatively correlated with our proposed variables. Moreover, we expect that individuals whose vested interest in physical activity is increased in the second study will intend to exercise more in the future, while individuals who do not increase vested interest in physical activity will remain at their current levels of exercise.

## **Methods**

### **Study 1 Participants**

We will recruit participants online through mTurk and by posts on Facebook groups related to exercise and healthy living for both Study 1 and Study 2. Participants will be eligible if they are over 18, regardless of their country of origin. However, we will aim to recruit an approximately equal number of participants from Asia and Western Europe/North America. Participants will not be compensated for their participation, as approved by the Research Ethics Boards, leaving participation both on mTurk and Facebook to be strictly voluntary. The expected total sample size for Study 1 is  $n = 300$ .

## Measures

**Short Grit Scale (Grit-S; Duckworth & Quinn, 2009):** This scale will ask participants to answer eight questions regarding their consistency of interest and perseverance of effort in their general activities on a 5-point Likert scale with anchors 1 (Not at all like me) to 5 (Very much like me). For example, participants will respond to the statement “I often set a goal but later choose to pursue a different one.” In developing the Grit-S scale, Duckworth and Quinn (2009) found Cronbach’s alphas ranging from  $\alpha = .73$  to  $\alpha = .83$  across four samples.

**Spielberger State-Trait Anxiety Inventory (STAI; Marteau & Bekker, 1992):** In order to assess their anxiety, participants will be asked six questions regarding their current state (i.e. “I feel calm”). Participants will rate whether they are currently experiencing the stated emotions on a 4-point scale ranging from 1 (Not at All) to 4 (Very Much). Marteau and Bekker (1992) reported an internal consistency of  $\alpha = .82$  for the scale.

**Self-Efficacy (adapted from Bandura, 2006):** Participants will be asked to state how confident they are that they can perform well while doing their physical or sport activity and will answer on a 0 (Cannot do at all) to 100 scale (Highly certain can do).

**Flow (Jackson & Marsh, 1996):** Nine items were chosen from Jackson and colleagues’ (1996) Flow Scale. Items will be rated on a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree) and will ask participants to rate how they usually feel when completing their physical activities (i.e. “I have total concentration”). The Cronbach’s alpha for the full 36-item scale was reported as  $\alpha = .83$  in Jackson and Marsh (1996).

**Intrinsic and Extrinsic Motivation (adapted from Guay, Vallerand, & Blanchard, 2000):** We will adapt two items from Guay and colleagues’ Situational Motivation Scale (SIMS; Guay et al., 2000). Participants will rate the items on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The items will ask participants their reasons for doing physical activity: i.e., “because it is engaging, interesting, and satisfying” (intrinsic) or whether “[they] do not see a good reason for doing physical activity” (extrinsic). Guay and colleagues (2000) reported the internal consistency of the SIMS as ranging from  $\alpha = .77$  to  $\alpha = .95$  depending on its subscale.

**Basic Psychological Needs (adapted from Standage, Duda, Treasure, & Prusak, 2003):** Three items will be adapted from Standage and colleagues (2003) in order to assess whether participants feel that engaging in physical activity meets their basic psychological needs. Participants will rate answers on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) and the needs of autonomy, relatedness, and competence will be assessed (“I feel autonomous and that I have some choice in what I want to do”). Cronbach’s alphas for the full scale ranged from  $\alpha = .71$  to  $\alpha = .80$  depending on the subscale in Standage and colleagues (2003).

**Attitude toward physical activity (adapted from Siegel, Donaldson, & Crano, 2018):** Participants will be asked to rate their attitude about physical activity on a 7-point scale using five affective word-pairs. For example, participants will be asked to rate whether physical activity is useless or useful on a 7-point scale.

**Vested Interest in physical activity (adapted from Siegel et al., 2018):** Participants will be asked to rate whether they think it is in their best interest to engage in physical activity for a list of twelve reasons, as well as one reverse-coded question. Participants will rate answers on a 7-point scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). For example, participants will respond to the statement “I consider it is in my best interest to engage in physical activity in order to...be healthier.”

**Injunctive and Descriptive Norms (adapted from White, Smith, Terry, Greenslade, & McKimmie, 2009):** In order to determine participants’ injunctive and descriptive norms regarding physical activity, four questions will be asked. For injunctive norms, we will ask participants to rate whether they believe others think that physical activity is something one should do and whether they believe that others feel that they should do more physical activity. For descriptive norms, participants will rate how many people they knew engage in physical activity and how many people they thought should engage in physical activity (0 to 100% scale).

**Mindfulness (adapted from Mackillop & Anderson, 2007):** We will use four items from the Mindful Attention and Awareness Scale (MAAS), as well as adding two more questions, in order to measure mindfulness. Participants will rate questions on a 7-point scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). For example, participants will respond to the statement “When doing physical or sport activity, I find myself doing things without

paying attention.” The internal consistency of the full scale was reported as  $\alpha = .89$  in Mackillop and Anderson (2007).

**Group Identification (adapted from Smith, Terry, & Hogg, 2006):** A seven-item scale will be used to measure group identification. Participants will be asked to imagine a group that they actually meet or could meet while completing physical activity and answer questions (i.e. “Do you identify with this group?”) while keeping the group in mind. Questions will be rated on a 5-point scale ranging from 1 (Not at All) to 5 (Completely).

**Physical Activity:** Participants will be asked whether they intend to engage in physical activity within various time periods, whether they believe they should engage in more physical activity, whether they currently engage in physical activity, and if they do, what physical activities they engage in (i.e. badminton, soccer, basketball, etc.). If the participants do engage in physical activities, they will be asked to list the frequencies by which they do so (i.e. length of exercise and times per month). Physical activity will be defined to the participants as bodily movements that require you to use energy (World Health Organization, 2018).

**Demographics.** Participants will be asked to provide their gender, age, height and weight (in order to allow for a calculation of BMI), marital status, employment status, current location (i.e. country), and educational background.

### Procedure

Participants will complete an online survey via Qualtrics (Western Europe/North America) or SoJump (Asia). The participants in Western Europe and North America will complete an English version of the survey while the participants in Asia will complete the same survey, translated to Mandarin by one of the investigators. When recruited, participants will receive a link to the survey and will read an online consent form on the first page. If they consent, they will be asked to start the survey and will be able to complete it on their own time and in any location they choose. The survey is expected to take approximately 20 minutes to complete. After completing the survey, participants will be asked to confirm that they permit us to use their data and be informed that they can contact the primary investigators to receive the aggregate results of the study. They will also see a debriefing page which explains the goals of the study and includes links to resources where they can learn more about physical activity (i.e. World Health Organization). The study has received Research Ethics Board approval from the UBC-Okanagan Behavioral Research Ethics Board and the University of Ottawa Ethics Board. Ethical approval was not necessary from the University of Copenhagen or the Chinese Academy of Sciences as this is a survey study.

### Data Analysis Plan

As recommended by Davidov, Schmidt, Billiet, and Meuleman (2018), we will use within-individual centering in order to avoid response biases, such as acquiescent responding, as a step prior to data analysis. Moreover, the data will be analyzed for cross-cultural equivalence using confirmatory factor analysis. In order to analyze data, we will use multiple regression with all the listed variables to determine which variables play the most important roles in physical activity.  $R^2$  will be used as an effect size. Afterward, we will use independent t-tests to compare Eastern and Western participants on each variable.

## Study 2

### Participants and Procedure

Participants will be recruited for Study 2 in the same way as for Study 1 and inclusion criteria will also remain the same. The expected sample size for Study 2 is  $n = 300$ . After participants are recruited, they will complete the study online. Participants will be randomly sorted into one of two groups. In both groups, they will be asked to first answer basic demographic questions, as well as to report their current levels of physical activity, as described in Study 1. Participants in Group 1 (Vested Interest Group; VI-Group) will then read a scenario that is intended to increase their vested interest in exercising by discussing ways in which physical activity will benefit them—i.e., by making salient their vested interest in physical activity. Specifically, we will manipulate the certainty, immediacy, and salience to self of physical activity effects, and self-efficacy in doing physical activity. Participants in Group 2 (Control Group) will read paragraphs that discuss the same benefits of physical activity but focus on how these benefits would help people in general, as opposed to a focus on the immediacy and certainty of the effect (see Appendix A). After reading these points, both groups will report on their healthy living intentions and complete the Vested Interest Questionnaire (described in Study 1). Moreover, both groups will complete questionnaires of

variables that were found to be most closely linked to healthy living styles in Study 1. We have not yet sought or received ethical approval for Part 2 of the study.

### **Data Analysis Plan**

We will use t-tests to first compare the VI-Group and the Control Group on vested interest as a manipulation check. We expect participants in the VI-Group to achieve higher scores on the Vested Interest Questionnaire. Afterward, the healthy living intentions of the two groups will be compared using t-tests in order to determine whether the manipulation successfully affected their future intentions to complete more physical activity. Country of origin (i.e. Eastern v. Western countries) will be considered a moderator variable.

### **Discussion**

Given its importance and the widespread lack of participation in physical activity, there is a call for further research in this domain (Grant, Hogg, & Crano, 2015). By understanding the relationship between individual and social factors, we will be able to start to promote participation in physical activity. Through the exploration of vested interest, grit, self-efficacy and anxiety, as well as group identification and social norms, we will be able to illuminate their contributions towards participation in physical activity. Our studies will be grounded in SDT as it merges social and cultural conditions that support or thwart the inherent capacity for psychological growth, engagement, and wellness (Ryan & Deci, 2000).

Physical activity is associated with health, longevity, mental well-being (Myers et al., 2005), prevention and maintenance of chronic diseases (Diaz et al., 2015), prevention of premature mortality (Warburton & Bredin, 2016), cognition, academic achievement (Donnelly et al., 2016), improving quality of life, reducing disability and increasing healthy aging (Bauman, Merom, Bull, Buchner, & Fiatarone Singh, 2016). Regardless of the abundance of literature emphasizing the importance of physical activity, current physical activity patterns are at the lowest they have been in human history with future projections indicating further declines (Myers et al., 2015). The call for physical activity interventions, particularly those that have broad applications, is at an all-time high. Reis and colleagues (2016) discuss the economic benefits of physical activity and the demand for effective strategies to increase physical activity levels. Our research aims to propel intervention literature and optimistically offer an effective facet for interventions.

Examining multicultural differences within the participation and maintenance of physical activity and the factors leading to such provides a wealth of important information. These differences can shed light on the importance of different factors across cultures and provide suggestions for where the emphasis should be placed to increase and maintain physical activity. Undoubtedly when cultural differences are uncovered, it is expected similarities will be discovered as well, birthing the opportunity to draw stronger connections between what factors lead to and maintain participation in physical activity. Therefore, an implication of our research will be illuminating what psychological constructs should be promoted to increase physical activity in each country studied. Given the vast amount of nations being multicultural, it is important that initiatives to increase and maintain physical activity keep cultural differences in mind. Minority groups have been consistently found to have relatively lower physical activity levels than majority groups (Kriska, 2000). Thus, the multicultural research of physical activity is of utmost importance. Using SDT as the framework, we can understand how increasing vested interest is important for the maintenance and participation in physical activity. When an individual is intrinsically motivated to perform an activity, they will participate in it instinctively and without need for external reinforcement (Hagger et al., 2005), indisputably engaging in such activity frequently. Vested interest being both personally important and hedonically relevant, it is proposed that it may be a facet of autonomous motivation, therefore an important factor for fuelling intrinsic motivation for physical activity. Our study will provide new contributions to physical activity research as the specific interactions between autonomous motivation and vested interest in regard to physical activity has yet to be examined; an interesting and potentially promising relationship.

Several limitations should be considered in relation to our study. Self-report portions of the study may result in discrepancies such as inflated or deflated reporting. English may not be participants' first language, which leaves room for misinterpretation or misunderstanding when filling out the questionnaires and reading the vignettes in Study 2. Moreover, due to time constraints, many measures were shortened, thus reducing the amount of information that we can garner about constructs. Finally, few measures were adapted specifically for this study, so their validity and reliability in this context is unclear.

Our study has much strength, a large one being the multicultural data collection and the contributions it will provide for the lacklustre research that currently exists with regard to physical activity and cultural differences. Moreover, another strength is the potential our study has for adding to interventions to make them more effective and

applicable across individuals. Specifically, vested interest has not been examined in relation to physical activity thus far, providing new and fruitful contributions to the current field of physical activity research. Overall, our study will further physical activity research as a whole and ideally aid interventions to increase the participation in and maintenance of physical activity, helping address the global pandemic of physical inactivity (Reis et al., 2016).

*Declaration:* We would like to thank the ARTS program for supporting this study. This project is not currently funded and the authors have no conflicts of interest to declare.

## References

- Ashford, S., Edmunds, J., & French, D. P. (2010). What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta analysis. *British Journal of Health Psychology*, 15(2), 265-288. doi: 10.1348/135910709x461752
- Ball, K., Jeffery, R. W., Abbott, G., McNaughton, S. A., & Crawford, D. (2010). Is healthy behavior contagious: associations of social norms with physical activity and healthy eating. *International Journal of Behavioral Nutrition and Physical Activity*, 7(1), 86-95. doi: 10.1186/1479-5868-7-86
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. doi: 10.1037/0033-295x.84.2.191
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.). *Self-efficacy beliefs of adolescents*, (Vol. 5., pp. 307-337). Greenwich, CT: Information Age Publishing.
- Bauman, A., Merom, D., Bull, F. C., Buchner, D. M., & Fiatarone Singh, M. A. (2016). Updating the evidence for physical activity: summative reviews of the epidemiological evidence, prevalence, and interventions to promote "active aging". *The Gerontologist*, 56 (Suppl. 2), S268-S280. doi:10.1093/geront/gnw031
- Bauman, A. E., Reis, R. S., Sallis, J. F., Wells, J. C., Loos, R. J., Martin, B. W., & Lancet Physical Activity Series Working Group. (2012). Correlates of physical activity: why are some people physically active and others not? *The Lancet*, 380(9838), 258-271. doi:10.1016/s0140-6736(12)60735-1
- Blackwell D.L. & Clarke T.C. (2018). State variation in meeting the 2008 federal guidelines for both aerobic and muscle-strengthening activities through leisure-time physical activity among adults aged 18–64: United States 2010–2015 (National Health Statistics Reports; no 112). Retrieved from <https://www.cdc.gov/nchs/data/nhsr/nhsr112.pdf>
- Chatzisarantis, N. L. D., Hagger, M. S., Wang, C. K. J., & Thøgersen-Ntoumani, C. (2009). The Effects of Social Identity and Perceived Autonomy Support on Health Behaviour Within the Theory of Planned Behaviour. *Current Psychology*, 28(1), 55–68. doi:10.1007/s12144-009-9043-4
- Crano, W. D. (1995). Attitude strength and vested interest. In R. Petty & J. Krosnick (Ed.), *Attitude strength: Antecedents and consequences* (pp. 131-157). London, UK: Psychology Press.
- Crano, W. D., & Prislun, R. (1995). Components of vested interest and attitude-behavior consistency. *Basic and Applied Social Psychology*, 17(1-2), 1-21. doi:10.1207/s15324834basps1701&2\_1
- Davidov, E., Schmidt P., Billiet J., & Meuleman B. (Eds.). (2018). *Cross-Cultural Analysis: Methods and Applications*. Abingdon-on-Thames, UK: Routledge Press.
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27(8), 930-942. doi:10.1177/0146167201278002
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182-185. doi:10.1037/a0012801
- De Dominicis, S., Crano, W. D., Ganucci Cancellieri, U., Mosco, B., Bonnes, M., Hohman, Z., & Bonaiuto, M. (2014). Vested interest and environmental risk communication: improving willingness to cope with impending disasters. *Journal of Applied Social Psychology*, 44(5), 364-374. doi: 10.1111/jasp.12229
- Diaz, K. M., Krupka, D. J., Chang, M. J., Peacock, J., Ma, Y., Goldsmith, J., & Davidson, K. W. (2015). Fitbit®: an accurate and reliable device for wireless physical activity tracking. *International Journal of Cardiology*, 185, 138-140. doi:10.1016/j.ijcard.2015.03.038
- Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., & Szabo Reed, A. N. (2016). Physical activity, fitness, cognitive function, and academic achievement in children: a systematic review. *Medicine and Science in Sports and Exercise*, 48(6), 1197-1222. doi:10.1249/mss.0000000000000901

- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (GRIT-S). *Journal of Personality Assessment*, 91(2), 166-174. doi:10.1080/00223890802634290
- Dunlop, W. L., & Beauchamp, M. R. (2011). Does similarity make a difference? Predicting cohesion and attendance behaviors within exercise group settings. *Group Dynamics: Theory, Research, and Practice*, 15(3), 258 – 266. doi:10.1037/a0023642
- Feltz, D. L., & Lirgg, C. D. (1998). Perceived team and player efficacy in hockey. *Journal of Applied Psychology*, 83(4), 557-564. doi: 10.1037/0021-9010.83.4.557
- Grant, F., Hogg, M. A., & Crano, W. D. (2015). Yes, we can: Physical activity and group identification among healthy adults. *Journal of Applied Social Psychology*, 45(7), 383-390. doi:10.1111/jasp.12305
- Guay, F., Vallerand, R. J., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: The Situational Motivation Scale (SIMS). *Motivation and Emotion*, 24(3), 175-213. Retrieved from <https://link.springer.com/content/pdf/10.1023/A:1005614228250.pdf>
- Hagger, M. S., Chatzisarantis, N. L., Barkoukis, V., Wang, C. K., & Baranowski, J. (2005). Perceived autonomy support in physical education and leisure-time physical activity: a cross-cultural evaluation of the trans-contextual model. *Journal of Educational Psychology*, 97(3), 376-390. doi:10.1037/0022-0663.97.3.376
- Hagger, M., & Chatzisarantis, N. (2008). Self-determination theory and the psychology of exercise. *International Review of Sport and Exercise Psychology*, 1(1), 79-103. doi:10.1080/17509840701827437
- Hogg, M. A., Terry, D. J., & White, K. M. (1995). A tale of two theories: A critical comparison of identity theory with social identity theory. *Social Psychology Quarterly*, 255-269. doi:10.2307/2787127
- Jackson, S. A., & Marsh, H. W. (1996). Development and validation of a scale to measure optimal experience: The Flow State Scale. *Journal of Sport and Exercise Psychology*, 18(1), 17-35. doi:10.1123/jsep.18.1.17
- Kinnafick, F. E., Thøgersen-Ntoumani, C., & Duda, J. L. (2014). Physical activity adoption to adherence, lapse, and dropout: a self-determination theory perspective. *Qualitative Health Research*, 24(5), 706-718. doi:10.1177/1049732314528811
- Kriska, A. (2000). Ethnic and cultural issues in assessing physical activity. *Research Quarterly for Exercise and Sport*, 71(sup2), 47-53. doi:10.1080/02701367.2000.11082786
- Larimer, M. E., Turner, A. P., Mallett, K. A., & Geisner, I. M. (2004). Predicting drinking behavior and alcohol-related problems among fraternity and sorority members: Examining the role of descriptive and injunctive norms. *Psychology of Addictive Behaviors*, 18(3), 203-212. doi:10.1037/0893-164x.18.3.203
- MacKillop, J., & Anderson, E. J. (2007). Further psychometric validation of the mindful attention awareness scale (MAAS). *Journal of Psychopathology and Behavioral Assessment*, 29(4), 289-293. doi:10.1007/s10862-007-9045-1
- Macniven, R., Bauman, A., & Abouzeid, M. (2012). A review of population-based prevalence studies of physical activity in adults in the Asia-Pacific region. *BMC Public Health*, 12(1), 41-52. doi:10.1186/1471-2458-12-41
- Marteau, T. M., & Bekker, H. (1992). The development of a six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI). *British Journal of Clinical Psychology*, 31(3), 301-306. doi:10.1111/j.2044-8260.1992.tb00997.x
- Myers, J., McAuley, P., Lavie, C. J., Despres, J. P., Arena, R., & Kokkinos, P. (2015). Physical activity and cardiorespiratory fitness as major markers of cardiovascular risk: their independent and interwoven importance to health status. *Progress in Cardiovascular Diseases*, 57(4), 306-314. doi:10.1016/j.pcad.2014.09.011
- Petosa, R. L., Suminski, R., & Hartz, B. (2003). Predicting vigorous physical activity using social cognitive theory. *American Journal of Health Behavior*, 27(4), 301-310. doi:10.5993/ajhb.27.4.2
- Reed, J., Pritschet, B. L., & Cutton, D. M. (2013). Grit, conscientiousness, and the transtheoretical model of change for exercise behavior. *Journal of Health Psychology*, 18(5), 612-619. doi: 10.1177/1359105312451866
- Reis, R. S., Salvo, D., Ogilvie, D., Lambert, E. V., Goenka, S., Brownson, R. C., & Lancet Physical Activity Series 2 Executive Committee. (2016). Scaling up physical activity interventions worldwide: stepping up to larger and smarter approaches to get people moving. *The Lancet*, 388(10051), 1337-1348. doi:10.1016/s0140-6736(16)30728-0
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. doi:10.1037/0003-066x.55.1.68
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, 18(5), 429-434. doi: 10.1111/j.1467-9280.2007.01917.x

- Sharma, M., Sargent, L., & Stacy, R. (2005). Predictors of leisure-time physical activity among African American women. *American Journal of Health Behavior*, 29(4), 352-359. doi:10.5993/ajhb.29.4.7
- Siegel, J. T., Donaldson, C. D., & Crano, W. D. (2018). Application of Vested Interest Theory to prevention of non-medical prescription stimulant and marijuana use: Unforeseen benefits of attitude-behavior inconsistency. *Drug and Alcohol Dependence*, 194, 210–215. doi:10.1016/j.drugalcdep.2018.10.007
- Smith, J. R., Terry, D. J., & Hogg, M. A. (2006). Social identity and the attitude-behaviour relationship: Effects of anonymity and accountability. *European Journal of Social Psychology*, 37(2), 239-257. doi:10.1002/ejsp.356
- Standage, M., Duda, J. L., Treasure, D. C., & Prusak, K. A. (2003). Validity, reliability, and invariance of the Situational Motivation Scale (SIMS) across diverse physical activity contexts. *Journal of Sport and Exercise Psychology*, 25(1), 19-43. doi:10.1123/jsep.25.1.19
- Stevens, M., Rees, T., Coffee, P., Steffens, N. K., Haslam, S. A., & Polman, R. (2017). A social identity approach to understanding and promoting physical activity. *Sports Medicine*, 47(10), 1911-1918. doi:10.1007/s40279-017-0720-4
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W.G. Austin & S. Worchel (Eds), *The social psychology of intergroup relations* (33-47). Wisconsin: Brooks/Cole Pub. Co.
- Wally, C. M., & Cameron, L. D. (2017). A randomized-controlled trial of social nor interventions to increase physical activity. *Annals of Behavioral Medicine*, 51(5), 642-651. doi:10.1007/s12160-017-9887-z
- Warburton, D. E., & Bredin, S. S. (2016). Reflections on physical activity and health: what should we recommend? *Canadian Journal of Cardiology*, 32(4), 495-504. doi:10.1016/j.cjca.2016.01.024
- White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and ingroup norms. *British Journal of Social Psychology*, 48(1), 135-158. doi:10.1348/014466608x295207
- Wilson, K. E., & Dishman, R. K. (2015). Personality and physical activity: A systematic review and meta-analysis. *Personality and Individual Differences*, 72, 230-242. doi:10.1016/j.paid.2014.08.023
- World Health Organization. (2018, February 23). *Physical Activity*. Retrieved from <http://www.who.int/news-room/fact-sheets/detail/physical-activity>
- Yuki, M. (2003). Intergroup Comparison versus Intragroup Relationships: A Cross-Cultural Examination of Social Identity Theory in North American and East Asian Cultural Contexts. *Social Psychology Quarterly*, 66(2), 166. doi:10.2307/1519846

## Appendix

### Scenari

#### **VI-Group:**

There are numerous ways in which **you can benefit** from physical activity. Some of these things are listed below. Please read them carefully.

Among other benefits, being physically active benefits you by **making you care about yourself**, by **being enjoyable and making you feel good**, and by **improving social relationships and engagement with your loved ones**. When you do some physical activity, your body **becomes healthier immediately after**, you experience an **important feeling of fulfillment**, **you certainly have a more positive mood and you become more effective in doing things with others and for others**. In practice, among other benefits, your cardiovascular system begins to improve **during and right after** exercising, you **achieve a positive goal and feel satisfied** about it, your **mood is boosted by the endorphins released during the exercise**, and you **actually engage in new activities with your family and friends**.

#### **Control Group:**

There are numerous good things about physical activity. Some of these things are listed below. Please read them carefully.

Among other benefits, physical activity makes people healthier, makes people feel good, and improves social relationship and engagement with beloved ones. When people do some physical activity, their body becomes healthier, they experience a feeling of fulfillment, they have a more positive mood and become more effective in doing things. In practice, among other benefits, the cardiovascular system begins to improve, the achievement of exercising translates to feeling satisfaction, mood is boosted by endorphins, and engagement in new activities arises.

## A cross-cultural comparison of mental health literacy and myths on Post-traumatic Stress Disorder caused by catastrophes

Clara Gesteira<sup>1</sup>, Martina Speck<sup>2</sup>, Rayna Sadia<sup>3</sup>, Haziq Mehmood<sup>4</sup>, & Samantha Chan<sup>5</sup>.

### Abstract

Mental health literacy (MHL), the knowledge that lay people have on mental health, has proved to be vital for the prevention and intervention on mental conditions (Jorm, 2000). When this literacy is poor, it leads to the formation of myths that can be very harmful for people who suffer from mental conditions. There is scarce literature on MHL related to trauma, and particularly in the area of trauma and catastrophic incidents. Besides, limited attention has been paid on the role of cultural values in the development of trauma (e. g. Maercker & Hecker, 2016; Maercker & Horn, 2012), even when cultural context can directly influence MHL (Corrigan, Markowitz, & Watson, 2003; Chaudhary, Mani, Ming, & Khan, 2016). We will conduct a cross-cultural study to compare people's myths on trauma and catastrophes in four different countries (i.e., Spain, Germany, Canada, and Pakistan). Hierarchical regression analyses will be conducted, with the score on a questionnaire on myths related to trauma after catastrophes as the dependent variable. Sex, age, level of exposure to catastrophes and "country" will be considered as the predictors. Findings will expand the knowledge on myths related to trauma after catastrophic incidents and to broaden it to different cultures. Study results could also be useful for the design of specific programs for the promotion of MHL and therefore, for the amelioration of psychological interventions for victims of these catastrophic incidents.

**Keywords:** cross-cultural, mental health literacy, myths, catastrophic incidents, posttraumatic stress disorder.

### Introduction

"Mental health literacy" (MHL) is defined as people's knowledge and beliefs about mental disorders which aid their recognition, management or prevention (Jorm et al., 1997; Brijnatg, Protheroe, Mahtan, & Antoniadis, 2016). Studies showed that the increase of MHL improved general population ability to recognize people with mental illness (Brijnatg et al., 2016; Corrigan, Powell, & Al-Khouja, 2015; Evans-Lacko et al., 2013; Jorm, Christensen, & Griffiths, 2005; Kelly, Jorm, & Wright, 2007; Stuart et al., 2014; Yap, Reavley & Jorm, 2012). Since early recognition and treatment are crucial to improving the prognosis of long-term mental health disorders (McGorry, Purcell, Hickie, & Jorm, 2007), lack of knowledge on mental health disorders can delay the act of seeking for professional help (Gulliver, Griffiths, & Christensen, 2010).

MHL in the general population also promotes knowledge and positive attitudes towards those who suffer from mental disorders, which further encourage the society to take the necessary measures to help those in needs (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Peluso & Blay, 2004; Paykel, Hart, & Priest, 1998; Sims, 1993; Thompson et al., 2002). In contrast, poor literacy on mental health leads to the formation of myths, or incorrect assumptions about people who suffer from a mental illness. For instance, it is common to think that people who suffer from a mental illness are more dangerous, unpredictable and have to be avoided, that they need an authoritarian education to be more responsible, or that they are incapable and disabled (Aromaa Tolvanen, Tuulari, & Wahlbeck, 2009; Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear, 1981). These myths usually have negative connotations and can contribute to the creation of stigmas that can be very harmful. In fact, stigma has been identified as one of the main reasons for people with mental illness not seeking help (Brijnatg et al., 2016; Corrigan, Druss, & Perlick, 2014; Kitchener & Jorm, 2002; Silver, 2006).

Despite the importance of the knowledge that people have about mental conditions, there is only a few studies that address MHL in depression and schizophrenia. Other mental conditions, such as, Post Traumatic Stress Disorder (PTSD) that are associated to specific traumatic incidents, such as disasters or catastrophes, have not received much attention (Aromaa et al., 2009; Silver, 2006; Slade, Johnston, Oakley Brown, Andrews & Whiteford, 2009). Disasters are those events that cause a serious disruption of the functioning of a society due to events such as natural or human-induced hazards (United Nations Office for Disaster Risk Reduction, UNISDR, 2019). Within the

---

<sup>1</sup> Complutense University of Madrid, & European University of Madrid, Spain

<sup>2</sup> Johannes Gutenberg University in Mainz, Germany.

<sup>3</sup> Lingnan University, Hong Kong

<sup>4</sup> Applied Psychology Department, Lingnan University, Hong Kong

<sup>5</sup> Department of Psychology, York University, Canada.

vast variety of disasters, catastrophes are considered the ones with the highest level of gravity, since they unfailingly result in extraordinary levels of mass casualties, damage, or disruption (Federal Emergency Management Agency, FEMA, 2008). Catastrophes are internationally recognized as potentially traumatic events. In fact, the relationship between catastrophes and PTSD has consistently been studied in research (Neria, Nandi, & Galea, 2008).

The scarce research specifically addressing MHL and psychological consequences that people can have in the aftermath of a catastrophe has shown that ordinary people and professionals make strong assumptions about how individuals respond to traumatic events. Many of those assumptions do not have empirical support, and therefore are considered as myths (Silver, 2006). A recent study conducted in Spain showed that, even though Spanish lay people were reasonably knowledgeable about how people are supposed to respond to disasters and catastrophes, some misconceptions about trauma responses still prevailed among them. For example, participants reported myths about the universal need of psychological therapy, the universal need of talking about everything that happened and the healing power of time (García-Vera et al., 2014).

Although this research is valuable, it also lacks of important information, as the consideration of cultural aspects that can influence the general knowledge of a community. Myths on mental health can vary between cultures based on cultural stereotypes, stress, relationships, and religious beliefs (Chaudhary, Mani, Ming, & Khan, 2016; Corrigan, Markowitz, & Watson, 2003). Previous literature on perception and beliefs of mental illness indicates that Asian Pacific Islanders, for example, identify family conflict as the main cause of mental disorders (Douglas & Fujimoto, 1995). Many South-east Asian studies expressed wrath of spirits or involvement of supernatural entity (Khan, Hassali, Tahir, & Khan, 2011; Kinzie, 1985; Mishra, Lucksted, Gioia, Barnet, & Bouquet, 2009), and the same belief is supported in Switzerland (Pfeifer, 1994). Mental illness is considered to be an imbalance of cosmic forces in China and strongly believed that it can be treated through diet, exercise, and relationships (Sue, 1994). Similar results were also reported by Adebowale and Ogunlesi (1999) in Nigeria.

These cultural differences are even more crucial in PTSD. Socio-cognitive theories on PTSD (Ehlers & Clark, 2000; Resick & Schnicke, 1993) explain that one of the reasons why some people do not recover from trauma is because they cannot adapt their previous beliefs to the new reality that a traumatic situation has introduced into their lives. If individuals who suffer a catastrophe have misconceptions on the psychological reactions after a catastrophe, it could be more difficult for them to accommodate to the new situation they have to confront, therefore it would be more likely for them to be stuck in trauma. Additionally, socio-interpersonal models on trauma (e. g. Maercker & Hecker, 2016; Maercker & Horn, 2012) consider that not only previous individual beliefs of direct victims are important in order to explain the origin and maintenance of PTSD but also the social context, including the beliefs of the general population about trauma can play an important role in the development of trauma. In fact, the beliefs of a concrete community can substantially influence the psychological interventions in the aftermath of traumatic incidents, such as natural disasters (Sumathipala, Siribaddana, & Perera, 2006).

The purpose of this research project included in the “Advanced Research Training Seminar” (ARTS) of the International Association of Applied Psychology (IAAP) is to adopt a multicultural approach to the study of MHL and myths about trauma related to catastrophes. As a cross-cultural comparative study, the aim of this study is to 1) examine lay people’s knowledge on how individuals are supposed to respond to catastrophic events in four different countries with different cultures (Spain, Germany, Canada, and Pakistan) and 2) understand how culture can influence the existence of myths on the general population. It is expected that culture will significantly predict the existence of myths about trauma and catastrophes, such that there will be statistically significant differences between the amount and type of myths in the different countries. We are not able to make any specific hypothesis on the direction of these differences due to the lack of specific studies in the field.

## Methods

### **Participants**

We plan to conduct hierarchical regression with four predictors for this study. According to Green (1991), the minimum sample size for multiple regression analysis, when it is intended to test not only the multiple correlation but the individual predictors, should be over  $104 + k$ , where “k” is the number of predictors that will be considered. Therefore, in this study, a minimum sample size of 108 (approximately 27 participants per country) will be required. This sample will be recruited using a stratified snowball sampling, a procedure where the first wave of participants (also called “seeds”) are directly contacted by the researchers. Once the first wave of participants consented and completed the study, they will be asked to share the study with people in their social network, where a second wave of participants will be recruited. The second wave of participants will then be asked to share the study with other people to recruit the third wave of participants and so on. Snowball sampling has been traditionally described

as a highly effective sampling technique for the outreach of communities that are hard-to-reach or “hidden”, because they are contacted by people who are part of their social networks (Atkinson & Flint, 2001; Barendregt, van der Poel A, & van de Mheen, 2005; Neille & Penn, 2015).

However, this procedure has also been criticized, firstly because, as a non-random sampling, it does not guarantee representation, and secondly, because its lack of diversity, that can be derived from the fact that participants are contacted by close people, with presumably similar characteristics. Stratification will be used in this study to maximize the possibilities of recruiting a wide, representative and heterogeneous sample. With this stratified way of sampling, we will also be able to assure the diversity of the first wave of seeds, which has been empirically proved to be the most important factor for assuring representation and diversity (Kirchherr & Charles, 2018). The variable for stratification will be age as it has a direct impact on MHL, such that, with older people generally reported lower levels of knowledge related to mental health (Connery & Davidson, 2006; Farrer, Leach, Griffiths, Christensen, & Jorm, 2008; Fisher & Goldney, 2003; Highet, Hickie, & Davenport, 2002; Jiménez, 2017; Kelly, et al., 2007).

For this study, each of the five members of the research team will contact a fix number of relatives or friends from three different age groups (i.e., 18-30; 31-50; more than 50) in the general population of their respective countries. The participants will be asked to contact three other people, each of them from a different age range following completion of the study. The same procedure will be repeated as many times as it is necessary to obtain the final sample size. Using this stratified snowball sampling, previous studies have been successful in recruiting heterogeneous and representative samples (García-Vera et al., 2014).

Inclusion criteria for this study will be: 1) being of legal age; 2) living in each of the countries of reference; 3) having internet access, since the entire procedure will be conducted by using an online survey. Potential candidates will be deemed ineligible to participate based on these exclusion criteria: 1) suffering from medical contraindication(s) (e.g. organic brain syndrome, severe cognitive or sensory impairment) likely to interfere with completing an online survey. The possible risks or discomforts of the study are minimal. That is why, even if there is a possibility of having participants that have gone through a catastrophe themselves, these situations will not be considered an exclusion criterion. However, this variable will be controlled from the beginning of the procedure and there will a warning on the survey, were it will be explained that in case of direct exposure to disasters or catastrophes, some of the questions could be uncomfortable for the participant.

## **Measures**

### ***Structured interview created ad hoc***

Participants will answer questions on their sociodemographic information, such as age, gender and the degree of exposure to catastrophes (i.e., whether people have directly experienced a catastrophe and if so, the degree to which they were exposed the catastrophes based on these four groups: injured, relative or close friend of a victim of a catastrophe who was dead, relative or close friend of a victim of a catastrophe who was injured and direct witness).

***Myths on trauma after catastrophes inventory*** A translation and cultural adaptation of the inventory originally developed by the Spanish researchers at Complutense University of Madrid (García-Vera et al., 2014) will be used in this research. The questionnaire includes 25 myths on how people are supposed to respond to catastrophes. The questionnaire was derived from a content analysis of salient literature, especially self-help guides covering topics as disasters, trauma or post-traumatic stress disorder (e. g. Aboriginal Mental Health First Aid Training and Research Program, 2008; Beyondblue. 2009; Mental Health First Aid Training and Research Program, 2008; National Institute of Mental Health, 2008; Vázquez, Pérez, & Hervás, 2008). The questionnaire asks participants to decide how much they agree or disagree with these 25 items of misconceptions by using a 5-point scale from “totally disagree” (1) to “totally agree” (5). All the items are myths, thus contradicting what good practices guidelines describe for victims of catastrophes. A higher score on the questionnaire indicates a higher agreement and a higher existence of myths, which reflects a lower level of MHL. Sample items are: “Everyone needs psychological therapy after having gone through a catastrophe”; “if after a catastrophe a person rebuilds his/her life very soon, sure there are latent problems that will eventually come to light”; “after a catastrophe, all people go through the same emotional stages”. The reliability (internal consistency) of the original Spanish version of this questionnaire was .83 (Cronbach’s alpha). A total of 21 out of the 25 items had loadings  $\geq .30$  in a one-factor solution after a principal axis factoring, and 19 out of 25 items had loadings  $\geq .40$ .

### **Procedure**

A translation and an adaptation of the original questionnaire has been completed. Based on the original Spanish version, we have followed a four-steps process to develop three different versions in English, German, and Urdu. During the first stage, a direct translation from Spanish to English was completed by the team members. Using the English version as a model, the team members translated the questionnaire from English to German and Urdu. During the second stage, an inverse translation of the Spanish, German, and Urdu versions were made into English by three blinded extern experts who has no specific knowledge on Psychology and disasters on each language. All the three English versions were unified by the team members. During the third stage, the final unified English version was presented to the rest of the colleagues from the Advanced Research Training Seminar (ARTS) in Montreal. After the discussion with the ARTS research team, some modifications were included in the final English, Spanish, German, and Urdu versions. It is important to highlight that apart from linguistic modifications, cultural adaptations were incorporated in this process of translation. For example, for the English and Urdu version in Pakistan, some technical terminology had to be simplified, due to the fact that the majority of people in Pakistan are not used to the medical terminology.

In order to facilitate data collection, an online survey has been created, using the German platform SoSci Survey where data will be stored in a password protected electronic format. This survey includes the questionnaire on myths related to catastrophes and the structure interview to evaluate relevant socio-demographic variables. In addition, the online survey includes a briefing at the beginning, where the general purposes of the research project are explained. As a part of the informed consent, eligible individuals will be informed that they will be enrolled in a free and voluntary psychological survey about psychological consequences of catastrophes and that their confidentiality will be maintained. SoSci Survey does not collect identifying information such as name, email address, or IP address. At the end of the survey, a debriefing providing the explanation on each of the myths on trauma mentioned in the questionnaire is also provided, together with contact information of the principal investigator and a list of specific psychological services for each country for participants access extra support should they experience any discomfort following the survey.

Ethics approval has been requested from European University of Madrid, where the principal investigator is currently affiliated. However, this ethical clearance has not been granted yet.

### **Planned analyses**

IBM SPSS Statistics 22 software will be used for the proposed statistical analysis. First, we will conduct preliminary analyses to examine the reliability and validity of the questionnaire. Specifically, we will conduct factor analysis to test if the internal structures of each version and the original version (one-factor solution after a principal axis factoring) are similar. Multigroup confirmatory factor analysis will be also used to test measurement equivalence. Analysis on internal consistency (Cronbach's alpha) will be calculated for each version. Second, we will conduct a descriptive analysis on each sample to examine the most and the least accepted myths out of the 25 items. Third, we will conduct a hierarchical regression analyses with the total score of the questionnaire and each item on the questionnaire as dependent variables. For each of the regression model, sex, age and level of exposure to catastrophes will be entered as independent variables in the first step and the variable "country" will be the entered in the second step as a predictor.

### **Discussion**

We expect to find that culture will significantly predict the presence of myths in the general population. Nevertheless, the specific differences between countries are still difficult to predict, considering the lack of previous literature on the topic.

The study has important implications as the task of preventing and helping people with psychological problems has traditionally been limited to health professionals. However, it is difficult for healthcare professionals to serve everyone given that the prevalence of psychological problems is so high. Having a society literate in mental health would help to distribute the help provided and make it more effective (Jorn, 2000). This is particularly important in catastrophic situations as regular health services are normally collapsed after such events took place (Sumathipala et al., 2006).

In addition, with a better knowledge of MHL in different countries and of the concrete myths related to different cultures, we will be able to better design specific programs for the universal promotion of MHL. In fact, there is positive research that show the efficacy of specific programs for the promotion of MHL in the reduction of symptomatology of mild and moderate mental illness, especially depression and anxiety (Brijnatg et al., 2016;

Christensen, Griffiths, & Jorm, 2004; Lintvedt et al., 2013; Rotondi et al., 2010). However, there is no study to our knowledge that provides evidence for similar programs for trauma after catastrophes.

There are several important study limitations that should be noted. The first limitation is related to the snowball sampling. Even though the stratification is addressed to control the heterogeneity in some relevant variables, such as the age, this procedure could not completely guarantee the representation and diversity of the sample. Second, the most common issue with cross-cultural surveys is the comparability of cultures. In their overview, Buil, Chernatony, and Martínez (2012) mentioned common pitfalls and provided recommendations for future cross-cultural research. They stated that countries in and of themselves are oftentimes not the relevant issue. Cities or specific areas can be more helpful in gaining the information that is sought. The third limitation is related cultural interpenetration, which means that countries influence each other through e.g. media, whereby causing a bias in the collection of data. The intra-national diversity could also cause a bias as globalization leads to the mixing of different cultures within a culture. Potential participants could answer the questions differently from each other, which results in measurement error, or as the survey is being set up a processing error could occur (Baur, 2014). One way we try to avoid the violation of 'spatial neutrality' is by using the same survey data collection program including the same encoding of items for all four languages. After the data is collected, measurement invariance and construct equivalence of the survey would be assessed in order to find potential errors caused by data of fundamentally diverse cultures (He, Merz, & Alden, 2008).

Beyond these limitations, the results of this ARTS research project will contribute to our scarce knowledge on myths on trauma after catastrophic incidents across different cultures. Findings from this study will have the potential to inform the development of universal promotion of MHL programs, and ultimately provide better support to those who have gone through a catastrophe.

#### *Declaration*

This work was supported by the *Advanced Research Training Seminar (ARTS)* of the *International Association of Applied Psychology (IAAP)*.

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The authors declare that there is no conflict of interest.

#### **References**

- Aboriginal Mental Health First Aid Training and Research Program. (2008). *Trauma and loss. Guidelines for providing mental health first aid to an aboriginal or Torres Strait islander person*. Melbourne: Mental Health First Aid Australia and beyondblue: the national depression initiative.
- Adebowale, T. O., & Ogunlesi, A. O. (1999). Beliefs and knowledge about aetiology of mental illness among Nigerian psychiatric patients and their relatives. *African journal of medicine and medical sciences*, 28(1-2), 35-41.
- Aromaa, E., Tolvanen, A., Tuulari, J., & Wahlbeck, K. (2009). Attitudes towards people with mental disorders: the psychometric characteristics of a Finnish questionnaire. *Social Psychiatry and Psychiatric Epidemiology*, 45(2), 265-273.
- Atkinson, R., & Flint, J. (2001). Accessing hidden and hard-to-reach populations: Snowball research strategies. *Social research update*, 33(1), 1-4.
- Barendregt C, van der Poel A., & van de Mheen D. (2005). Tracing selection effects in three non-probability samples. *Eur Addict Res*, 11(3), 124–131. <https://doi.org/10.1159/000085547>.
- Baur, N. (2014). Comparing societies and cultures: challenges of cross-cultural survey research as an approach to spatial analysis. *Historical Social Research*, 39(2), 257-291. <https://doi.org/10.12759/hsr.39.2014.2.257-291>.
- Beyondblue. (2009). *Post-traumatic stress disorder (PTSD). Fact sheet 31*. Retrieved from <http://www.beyondblue.org.au>.
- Brijnatg, B., Protheroe, J., Mahtani, K. R., & Antoniadis, J. (2016). Do web-based mental health literacy interventions improve the mental health literacy of adult consumers? Results from a systematic review. *Journal of Medical Internet Research*, 18 (6), 1-13. [doi: 10.2196/jmir.5463](https://doi.org/10.2196/jmir.5463).
- Brockington, I. F., Hall, P., Levings, J., & Murphy, C. (1993). The community's tolerance of the mentally ill. *British Journal of Psychiatry*, 162, 93–99. <https://doi.org/10.1192/bjp.162.1.193>.
- Buil, I., de Chernatony, L., & Martínez, E. (2012). Methodological issues in cross-cultural research: An overview and recommendations. *Journal of Targeting, Measurement and Analysis for Marketing*, 20(3-4), 223-234.

- Choudhry, F. R., Mani, V., Ming, L. C., & Khan, T. M. (2016). Beliefs and perception about mental health issues: a meta-synthesis. *Neuropsychiatric disease and treatment*, 12, 2807. doi: 10.2147/NDT.S111543.
- Christensen, H., Griffiths, K. M., & Jorm, A. F. (2004). Delivering interventions for depression by using the internet: randomised controlled trial. *Bmj*, 328(7434), 265. <https://doi.org/10.1136/bmj.37945.566632.EE>.
- Connery, H., & Davidson, K. (2006). A survey of attitudes to depression in the general public: a comparison of age and gender differences. *Journal of Mental Health*, 15 (2), 179-189. <https://doi.org/10.1080/09638230600608818>.
- Corrigan, P. W., Druss, B. G., & Perlick, D. A. (2014). The impact of mental illness stigma on seeking and participating in mental health care. *Psychological Science in the Public Interest*, 15(2), 37-70. <https://doi.org/10.1177/1529100614531398>.
- Corrigan, P. W., Markowitz, F. E., & Watson, A. C. (2003). Structural levels of mental illness stigma and discrimination. *Schizophrenia bulletin*, 30(3), 481-491. <https://doi.org/10.1093/oxfordjournals.schbul.a007096>.
- Corrigan, P. W., Powell, K. J., & Al-Khouja, M. A. (2015). Examining the impact of public service announcements on help seeking and stigma: results of a randomized controlled trial. *Journal of Nervous and Mental Diseases*, 203(11), 836-842. doi: 10.1097/NMD.0000000000000376.
- Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O.J. (2000). Stigmatization of people with mental illnesses. *British Journal of Psychiatry*, 177, 4-7. <https://doi.org/10.1192/bjp.177.1.4>.
- Douglas, K. C., & Fujimoto, D. (1995). Asian Pacific elders: implications for health care providers. *Clinics in geriatric medicine*, 11(1), 69-82. [https://doi.org/10.1016/S0749-0690\(18\)30309-4](https://doi.org/10.1016/S0749-0690(18)30309-4).
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345. [https://doi.org/10.1016/S0005-7967\(99\)00123-0](https://doi.org/10.1016/S0005-7967(99)00123-0).
- Evans-Lacko, S., Malcolm, E., West, K., Rose, D., London, J., Rüsçh, N., Little, K., Henderson, C., & Thornicroft, G. (2013). Influence of Time to Change's social marketing interventions on stigma in England 2009-2011. *British Journal of Psychiatry*, 55, 77-88. <https://doi.org/10.1192/bjp.bp.113.126672>.
- Farrer, L., Leach, L., Griffiths, K., Christensen, H., & Jorm, A. (2008). Age differences in mental health literacy. *BMC Public Health*, 8 (1), 1-8. <https://doi.org/10.1186/1471-2458-8-125>.
- Federal Emergency Management Agency, FEMA (2008). *National Response Framework*. Retrieved from <http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf>.
- Fisher, L., & Goldney, R. (2003). Differences in community mental health literacy in older and younger Australians. *International Journal of Geriatric Psychiatry*, 18 (1), 33-40. <https://doi.org/10.1002/gps.769>.
- García-Vera, M. P., Sanz, J., Cohen Silver, R., Gutiérrez, S., Prieto, S., Rodríguez, I., Mínguez, A., & Martín-Donoso, I. (2014, July). Lay people's myths on how people are supposed to respond to disasters. Poster presented at the 28th International Congress of Applied Psychology, Paris (France).
- Green, S. B. (1992). How many subjects does it take to do a regression analysis. *Multivariate Behavioral Research*, 26 (3), 499-510. [https://doi:10.1207/s15327906mbr2603\\_7](https://doi:10.1207/s15327906mbr2603_7).
- Griffiths, K. M., Christensen, H., Jorm, A. F., Evans, K., y Groves, C. (2004). Effect of web-based depression literacy and cognitive-behavioural therapy interventions on stigmatising attitudes to depression: randomised controlled trial. *British Journal of Psychiatry*, 185, 342-349. <https://doi.org/10.1192/bjp.185.4.342>.
- Gulliver, A., Griffiths, M. & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC Psychiatry*, 10 (113), 1-9. <https://doi.org/10.1186/1471-244X-10-113>.
- He, Y., Merz, M. A., & Alden, D. L. (2008). Diffusion of Measurement Invariance Assessment in Cross-National Empirical Marketing Research: Perspectives from the Literature and a Survey of Researchers. *Journal of International Marketing*, 16(2), 64-83. <https://doi.org/10.1509/jimk.16.2.64>.
- Hight, N., Hickie, L., & Davenport, T. (2002). Monitoring awareness of and attitudes to depression in Australia. *The Medical Journal of Australia*, 17, 63-68. <https://doi.org/10.5694/j.1326-5377.2002.tb04506.x>.
- Jiménez, A. (2017). ¿Qué creencias tiene la población sobre cómo afrontar psicológicamente un desastre? (unpublished master's thesis). Universidad Complutense de Madrid, Madrid, Spain.
- Jorm, A. F. (2000). Mental health literacy: public knowledge and beliefs about mental disorders. *British Journal of Psychiatry*, 177, 296-401. <https://doi.org/10.1192/bjp.177.5.396>.
- Jorm, A. F., Jorm, A. F., Christensen, H., Griffiths, K. M., Jorm, A. F., Christensen, H., & Griffiths, K. M. (2005). The impact of beyondblue: the national depression initiative on the Australian public's recognition of depression and beliefs about treatments. *Australian and New Zealand Journal of Psychiatry*, 39(4), 248-254.

- Jorm, A. F., Korten, A. E., Jacomb, P. A., Christensen, H., Rodgers, B., & Pollitt, P. (1997). Public beliefs about causes and risk factors for depression and schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, 32, 143-148.
- Kelly, C. M., Jorm, A. F., & Wright, A. (2007). Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *Medical Journal*, 187(7), 26-30. <https://doi.org/10.5694/j.1326-5377.2007.tb01332.x>.
- Khan, T. M., Hassali, M. A., Tahir, H., & Khan, A. (2011). A pilot study evaluating the stigma and public perception about the causes of depression and schizophrenia. *Iranian journal of public health*, 40(1), 50.
- Kinzie, J. D. (1985). Overview of clinical issues in the treatment of Southeast Asian refugees. *Southeast Asian mental health: Treatment, prevention, services, training, and research*, 113-135. Retrieved from <https://files.eric.ed.gov/fulltext/ED266199.pdf#page=124>.
- Kirchherr J. & Charles K. (2018). Enhancing the sample diversity of snowball samples: Recommendations from a research project on anti-dam movements in Southeast Asia. *PLoS ONE*, 13(8), 1-27. <https://doi.org/10.1371/journal.pone.0201710>.
- Kitchener, B. A. & Jorm, A. F. (2002). Mental health first aid training for the public: evaluation of effects on knowledge, attitudes and helping behavior. *BMC Psychiatry*, 2(10). <https://doi.org/10.1186/1471-244X-2-10>.
- Lintvedt, O. K., Griffiths, K. M., Sørensen, K., Østvik, A. R., Wang, C. E., Eisemann, M., & Waterloo, K. (2013). Evaluating the effectiveness and efficacy of unguided internet-based self-help intervention for the prevention of depression: a randomized controlled trial. *Clinical Psychology & Psychotherapy*, 20(1), 10-27. <https://doi.org/10.1002/cpp.770>.
- Maer Maercker, A., & Hecker, T. (2016). Broadening perspectives on trauma and recovery: A socio-interpersonal view of PTSD. *European journal of psychotraumatology*, 7(1), 29303. <https://doi.org/10.3402/ejpt.v7.29303>.
- Maercker, A. & Horn, A. (2012). A socio-interpersonal perspective of PTSD: The case for environments and interpersonal processes. *Clinical Psychology & Psychotherapy*, 20, 46-481. <https://doi.org/10.1002/cpp.1805>.
- McGorry, P. D., Purcell, R., Hickie, I. B., & Jorm, A. F. (2007). Investing in youth mental health is a best buy. *Medical Journal of Australia*, 187(7), S5. Retrieved from [https://www.mja.com.au/system/files/issues/187\\_07\\_011007/mcg10312\\_fm.pdf](https://www.mja.com.au/system/files/issues/187_07_011007/mcg10312_fm.pdf).
- Mental Health First Aid Training and Research Program. (2008). *Traumatic events: first aid guidelines for assisting adults*. Melbourne: Orygen Youth Health Research Centre, University of Melbourne.
- Mishra, S. I., Lucksted, A., Gioia, D., Barnett, B., & Baquet, C. R. (2009). Needs and preferences for receiving mental health information in an African American focus group sample. *Community Mental Health Journal*, 45(2), 117.
- National Institute of Mental Health. (2008). *Post-traumatic stress disorder (PTSD)*. U.S. Department of Health and Human Services, National Institutes of Health.
- Neille, J., & Penn, C. (2015). Beyond physical access: a qualitative analysis into the barriers to policy implementation and service provision experienced by persons with disabilities living in a rural context. *Rural & Remote Health*, 15(3). Retrieved from <https://pdfs.semanticscholar.org/8b82/a3b11f3c99c3f7ee12338454f0e0f1131ae6.pdf>.
- Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine*, 38(4), 467-480. <https://doi.org/10.1017/S0033291707001353>.
- Paykel, E. S., Hart, D., & Priest, R. G. (1998). Changes in public attitudes to depression during the Defeat Depression campaign. *British Journal of Psychiatry*, 173, 519-522. <https://doi.org/10.1192/bjp.173.6.519>.
- Peluso, É. D. T. P., & Blay, S. L. (2004). Community perception of mental disorders. *Social Psychiatry and Psychiatric Epidemiology*, 39(12), 955-961.
- Pfeifer, S. (1994). Belief in demons and exorcism in psychiatric patients in Switzerland. *British Journal of Medical Psychology*, 67(3), 247-258. <https://doi.org/10.1111/j.2044-8341.1994.tb01794.x>.
- Purnell, L. D. (2012). *Transcultural health care: A culturally competent approach*. FA Davis.
- Resick, P. A., & Schnicke, M. K. (1993). *Cognitive processing therapy for rape victims: A treatment manual*. Newbury Park, Sage Publications
- Rotondi, A. J., Anderson, C. M., Haas, G. L., Eack, S. M., Spring, M. B., Ganguli, R., Newhill, C., & Rosenstock, J. (2010). Web-based psychoeducational intervention for persons with schizophrenia and their supporters: one-year outcomes. *Psychiatric Services*, 61(11), 1099-1105. Retrieved from <https://ps.psychiatryonline.org/doi/full/10.1176/ps.2010.61.11.1099>.
- Silver, R. C. (2006). Attacking the myths. *Science & Spirit*, 17 (5), 26-29.

- Sims, A. (1993). The scar that is more than skin deep: the stigma of depression. *British Journal of General Practice*, 43, 30–31.
- Slade, T., Johnston, A., Oakley Browne, M. A., Andrews, G., & Whiteford, H. (2009). 2007 National Survey of Mental Health and Wellbeing: methods and key findings. *Australian and New Zealand Journal of Psychiatry*, 43(7), 594-605.
- Stuart, H., Chen, S. P., Christie, R., Dobson, K., Kirsh, B., Knaak, S., ... & Modgill, G. (2014). Opening minds in Canada: targeting change. *The Canadian Journal of Psychiatry*, 59(1\_suppl), 13-18. <https://doi.org/10.1177/070674371405901S05>.
- Sue, S. (1994). *Mental health: Conforming critical health issues of Asian and Pacific Islander Americans*.
- Sumathipala, A., Siribaddana, S., & Perera, C. (2006). Management of dead bodies as a component of psychosocial interventions after the tsunami: A view from Sri Lanka. *International Review of Psychiatry*, 18(3), 249-257. <https://doi.org/10.1080/09540260600656100>.
- Taylor, W. C., & Dear, M. J. (1981). Scaling community attitudes toward the mentally ill. *Schizophrenia Bulletin*, 7, 225–240.
- Thompson, A. H., Stuart, H., Bland, R. C., Arboleda-Florez, J., Warner, R., & Dickson, R. A. (2002). Attitudes about schizophrenia from the pilot site of the WPA worldwide campaign against the stigma of schizophrenia. *Social psychiatry and psychiatric epidemiology*, 37(10), 475-482. Retrieved from <https://link.springer.com/article/10.1007/s00127-002-0583-2>.
- United Nations Office for Disaster Risk Reduction (2018). Report of the Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction. Retrieved from <http://www.unisdr.org/we/inform/publications/51748>
- Vázquez, C., Pérez-Sales, P., & Hervás, G. (2008). Positive effects of terrorism and posttraumatic growth: an individual and community perspective. In S. Joseph y P. A. Linley (Eds.), *Trauma, recovery and growth: positive psychology perspectives on post-traumatic stress*. Hoboken, NJ: Wiley & Sons.
- Yap, M. B., Reavley, N. J., & Jorm, A. F. (2012). Associations between awareness of beyond blue and mental health literacy in Australian youth: results from a national survey. *New Zealand Journal of Psychiatry*, 46(6), 541-552. <https://doi.org/10.1177/0004867411435288>.

## The association of self-compassion, resilience and coping in relation to psychological well-being among youth: A cross-cultural study of Hong Kong, Nigeria and Vietnam

Winnie W.Y. Yuen<sup>1</sup>, Bukola V. Bada<sup>2</sup>, & Quynh-Anh N. Nguyen<sup>3</sup>

### Abstract

In light of the prevalence and higher risk of having mental health problems among youth, there has been growing research adopting a positive psychology approach to identify factors that reduce risks as well as to promote psychological well-being. Studies have shown direct effects of constructs such as resilience, adaptive coping and self-compassion on better mental health outcomes. The current study aims to explore the relationships among these positive constructs and their association with psychological well-being among youth in three non-Western regions – Hong Kong, Nigeria and Vietnam. A total of 252 participants aged 18 to 25 will be recruited from universities in Hong Kong, Nigeria and Vietnam to complete a self-administered web-based survey. The Self-Compassion Scale, Connor-Davidson Resilience Scale, Brief Coping Orientations to Problem Experienced Scale, Satisfaction with Life Scale and Depression Anxiety and Stress Scale will be used to measure the psychological variables. In addition, socio-demographic information such as age, gender and family income, will be collected. ANOVA and structural equation modelling will be conducted using SPSS. The findings will increase our understanding of relationships among positive constructs in different cultures and inform future culturally-adapted intervention for youth, which in turn will promote psychological well-being among youth in different cultures.

**Keywords:** Cross culture; positive youth development; self-compassion; resilience; mental health

### Introduction

Mental health problem is an important global public health issue. It is estimated that around 420 million people currently suffer from a mental condition (World Health Organization, 2018). The total burden of all mental disorders was estimated at US\$2.5 trillion and the cost is projected to increase to US\$6 trillion by 2030. Mental health problems often start in adolescence or the stage of young adults (12-24 of age), which is a period of challenges as individuals gain new identities with rapid changes in biology while transitioning to adulthood (Anyan & Hjemdal, 2016; Arslan, 2016). Mental health problems not only increase the likelihood of other risk behaviors, such as domestic violence, crime and suicide (World Health Organization, 2017), but also, in many cases, affect young persons' life trajectories, such as negatively influence their ability to sustain employment or establish and maintain a family (Kessler et al., 2009).

A deficit perspective of mental health seems to be insufficient to treat or significantly reduce the number of people affected by mental disorders. To deal with the mental health issues around the globe, the approach should go beyond treating disorder to promote mental well-being and flourishing (Seligman & Csikszentmihalyi, 2000). An alternative approach to studying the strengths of an individual is needed to capture the full spectrum of human experiences (Aspinwall & Tedeschi, 2010; Gable & Haidt, 2005; Mann, 2001; Wood & Tarrier, 2010). In the past few decades, a growing body of interdisciplinary research has shifted to a positive psychology approach to understand people's resilient factors, strengths, and psychological well-being (Aspinwall & Tedeschi, 2010; Seligman & Csikszentmihalyi, 2000), as well as to design and evaluate interventions that mobilize the resources of individuals to reduce mental health problems. An approach that focuses on developing the assets of youth and empowering them to reach their full potential is the positive youth development (PYD) perspective. The PYD constructs have been conceptualized into internal (individual factors) and external assets (family and social factors) (Benson, 2006). Previous studies have identified various key individual constructs, including self-efficacy, positive self-identity, resilience, cognitive competence, and emotional competence (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Shek, Sun, & Merrick, 2012). Using the lens of these positive constructs can enrich our

---

<sup>1</sup> Department of Social Work and Social Administration, The University of Hong Kong, Hong Kong;

Correspondence concerning this article should be addressed to Dr. Winnie Yuen, Department of Social Work and Social Administration, The Jockey Club Tower, The Centennial Campus, The University of Hong Kong, Pokfulam, Hong Kong. E-mail address: [wyyuen@connect.hku.hk](mailto:wyyuen@connect.hku.hk).

<sup>2</sup> Department of Psychology, Faculty of the Social Sciences, University of Ibadan, Nigeria

<sup>3</sup> School of Public Health and Preventive Medicine, Monash University, Australia and Department of Psychology and Pedagogy, Hue University of Education, Hue University, Vietnam.

understanding of factors associated with positive outcomes among young people and facilitate the design of relevant programs to promote psychological well-being among them.

### **The role of positive constructs – resilience, coping and self-compassion**

Within this positive movement, the current proposal will explore constructs including resilience, coping styles and self-compassion in relation to psychological well-being among young people.

Resilience comes from a Latin word *resilire*, which means “to recover” or “spring back into shape” (Oxford English Dictionary, 2019). Most of the seminal research on resilience conceptualized resilience as specific traits and individuals with resilience would possess attributes such as hardiness, self-efficacy, self-esteem, optimism (Grafton, Gillespie, & Henderson, 2010). During the second wave of resilience inquiry, researchers have defined resilience as a positive adaptation within the context of significant adversity (Luthar, Cicchetti, & Becker, 2000). This conceptualization implies that resilience is the way individuals utilize their individual and environmental resources to cope with and recover from life challenges. Treating resilience as specific traits makes it hard to explain the evolvment from adversity to positive adaptation and self-growth which involves a developmental progression, such that new vulnerabilities and/or strengths often emerge with changing life circumstances (Garmezy & Masten, 1986; Werner & Smith, 1992). Thus, considering resilience as a relative fluid concept as opposed to a fixed concept allows us to examine the interactions of various factors, from internal personal factors to external familial and environmental factors, in providing positive outcomes in the face of stress or challenges (Luthar & Zelazo, 2003). Studies showed that higher levels of resilience were associated with more adaptive coping, more optimistic views about oneself, the environment and the future, which were related to less psychological distress (Sossou, Craig, Ogren, & Schnak, 2008). Resilience was also positively related to global adjustment, better physical health and psychological health among youth (Ho, Louie, Chow, Wong, & Ip, 2015). We thus hypothesize that the resilience of the youth would be associated with lower levels of psychological distress and greater satisfaction of life (Hypothesis 1).

Effective coping is a positive construct that refers to managing challenges and tackling stress, which leads to better physical and psychological outcomes (Folkman & Moskowitz, 2000). According to Lazarus and Folkman (1984), coping is a cognitive and behavioral process of how individuals respond and adjust to stressors, manage their circumstances and master their environment (Tischler & Vostanis, 2007). Coping strategies are often divided into emotion-focused and problem-focused. While emotion-focused strategies are thought to be linked to greater psychological distress, problem-focused coping strategies are associated with more optimal psychological health outcomes (Folkman & Moskowitz, 2000). Nevertheless, the outcomes of different coping styles could be influenced by the fit between coping strategy and the situation. Since emotion-focused coping encompasses a wide range of strategies, further categorization of them into approach-oriented/adaptive and avoidance-oriented/maladaptive coping has been suggested. Adaptive coping involves strategies that bring the individuals into closer contact with the source of stress, such as planning, positive reframing, and social support seeking. They are more adaptive because they involve actions and behaviors used in response to stress which lead to improved outcomes (Elliot, Thrash, & Murayama, 2011). In contrast, maladaptive coping refers to attempts to withdraw oneself from the stressor or related emotions (Skinner et al., 2003). Strategies such as denial, venting and substance use are maladaptive because they often result in undesirable consequences. We argue that adaptive coping strategies would be negatively associated with less psychological distress but positively with satisfaction of life (Hypothesis 2).

Self-compassion is a relatively new concept as compared to the above constructs but is a robust predictor of positive functioning (Neff, 2003; Neff, Rude, & Kirkpatrick, 2007). It refers to an individual being kind and compassionate toward oneself at times of perceived failure, inadequacy or personal suffering. Neff (2003) proposed three dimensions of self-compassion: self-kindness (versus self-judgment), common humanity (versus isolation), and mindfulness (versus over-judgment). For example, a person with self-compassion is warm towards him/herself, recognises being imperfect and encountering difficulties are part of the shared human experience, and neither suppresses nor exaggerates one’s negative emotions (Neff, Pisitsungkagarn, & Hsieh, 2008). Higher levels of self-compassion could protect individuals from psychological distress, anxiety and depressive symptoms (Pauley & McPherson, 2010). It is also a strong predictor of positive feelings, subjective and psychological well-being among adults (Brion, Leary, & Drabkin, 2014; Neff, Kirkpatrick, & Rude, 2007) and adolescents (Neff & McGehee, 2010; Sun, Chan, & Chan, 2016). Based on these evidence, it is expected that self-compassion is negatively related to psychological distress and positively associated with life satisfaction (Hypothesis 3).

Moreover, it is expected that these constructs will be positively associated with each other. Previous studies have shown a positive relation between resilience and adaptive coping and we postulate that such association would be present among the youth of the three places (Hypothesis 4). In addition, individual who are self-compassionate

tend to face life stressors with feelings care and support might be more able to hold a balanced view about themselves, keep a distance from the challenging situation, as well as less likely to be self-criticized (Bluth, Mullarkey, & Lathren, 2018; Trompetter, de Kleine, & Bohlmeijer, 2017), which may promote the use of positive coping (Leary, Tate, Adams, Batts Allen, & Hancock, 2007) and “bounding back from life’s difficulties (Warren, Smeets, & Neff, 2016). There is evidence supporting that individuals with a higher level of self-compassion were more likely to use adaptive emotional-coping strategies, such as positive cognitive reappraisal and acceptance (Allen & Leary, 2010), while those with lower self-compassion tend to use maladaptive emotion regulation strategies such as avoidance, thought suppression and rumination (Barnard & Curry, 2011; Raes, 2010). Furthermore, in a study with middle and high school students, Bluth et al. (2018) found that self-compassion was positively associated with resilience. Thus, the current study hypothesized that self-compassion would positively relate to adaptive coping styles (Hypothesis 5) and resilience (Hypothesis 6).

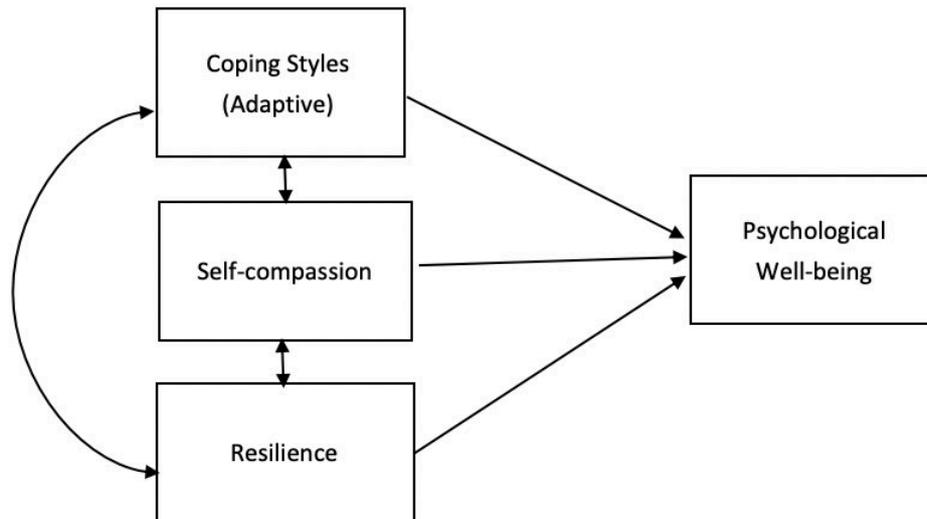
### **A cross-cultural inquiry**

It has been noted that the above positive constructs are culturally-related and influenced by cultural values. In a critical review, cultural differences were found in how young people responded to their social psychological problems (Harvey & Delfabbro, 2004). Additionally, differences in employing emotion-focused or problem-focused coping styles when faced with stressful encounters have been documented between Western and Asian participants (O'Connor & Shimizu, 2002). As self-compassion is a concept that stems from Eastern philosophy and Buddhism (Neff et al., 2008), one might expect that Asians would be more likely to practice self-compassion than people in other cultures. Moreover, the levels of self-compassion reported by the participants varied even within Asian cultures. A study with undergraduates in the US, Thailand, and Taiwan found that self-compassion was the highest in Thailand but lowest in Taiwan. The authors concluded that self-compassion is affected by cultural features as well as social and core values of the regions (Neff et al., 2008).

It seems that a typical dichotomy that distinguishes “Eastern” and “Western” cultures using “collectivism” and “individualism” may mask important differences that exist in various nations or regions. To date, relatively few studies have examined and compared the levels of self-compassion and other positive psychological constructs in non-Western cultures. Through this study, we will expand the existing literature by investigating and comparing the patterns of self-compassion, coping style, resilience and their perceived well-being among the youth in Hong Kong, Nigeria and Vietnam. While some historical factors (e.g. influenced by Western cultures in the 19<sup>th</sup> and 20<sup>th</sup> centuries), values (e.g. Confucianism, filial piety), and stressors among the youth are similar (Chiu & Ring, 1998), there are considerable geographical, economic and religious differences among these regions (Matondo, 2012). It is thus possible that the youth in these three regions would adopt different coping styles, have unique ways to be compassionate to themselves and exhibit resilience differently. The findings will increase our understanding of the manifestation of positive constructs in non-Western cultures, which will then inform future culturally-adapted psychological intervention for young people.

Additionally, while studies have shown the effects of the positive constructs (self-compassion, adaptive coping and resilience) on psychological well-being, little is known about how they work together in the process. Such analysis will also be particularly useful as the investigations of positive constructs, and well-being in Nigeria and Vietnam are lacking. The current study also aims to examine if self-compassion, resilience and coping styles are interrelated and how they influence the psychological well-being among youth in three different places (Figure 1).

Figure 1. A proposed model of positive constructs and psychological well-being



## Methods

### Participants

In this cross-sectional study, participants will be recruited from local universities in Hong Kong, Nigeria, and Vietnam. Their year of study and faculty will serve as the stratifying factors. Potential university participants will be given a link with questions to screen for their eligibility. The inclusion criteria include (1) aged 18 to 25; (2) enrolled in an undergraduate program in the university; (3) able to provide informed consent to participate in the study. Those enrolled in associate degree or postgraduate programs will be excluded.

### Measures

The Chinese, English and Vietnamese versions of the following scales will be used in Hong Kong, Nigeria, and Vietnam, respectively. For the scales where Vietnamese versions are not available, a fully bilingual native speaker (QAN) has translated them into Vietnamese following the guidelines proposed by Sinaiko and Brislin (1973), and blindly back-translated into English by a different bilingual individual. Results have been examined and adjusted for the equivalence of meanings.

**Self-compassion Scale.** The Self-Compassion Scale (Neff, 2003) has 26 items to measure participants' levels of self-compassion on a 5-point scale ranging from 1 (almost never) to 5 (almost always). It consists of six subscales: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Sample items include "I try to see my failings as part of the human condition", "I try to be understanding and patient towards those aspects of my personality I don't like". It is reported to have good internal consistency and adequate fit for a six-factor model (Neff, 2003). The Chinese and Vietnamese versions have been used among adolescents and young adults. They showed acceptable to good reliability (Cronbach's alphas ranged from .62 to .78) and validity (Sun et al., 2016; Tran, 2017; Wong & Mak, 2013).

**Connor-Davidson Resilience Scale.** The Connor-Davidson Resilience Scale (Connor & Davidson, 2003) measures the ability to cope with adversity in the past one month. The 10-item version will be used to assess resilience (Campbell-Sills & Stein, 2007). Sample items of the scale include "I try to see the humorous side of things when I am faced with problems" and "I tend to bounce back after illness, injury or other hardships". Participants will rate items on a Likert scale from 0 (not true at all) to 4 (true nearly all the time), with the highest total score of 40. A higher score indicates a higher level of resilience. This scale has been translated and applied

to Chinese (Yu, Lau, Mak, Zhang, & Lui, 2011), Nigerian (Aloba, Olabisi, & Aloba, 2016) and Vietnamese (Nguyen, Bellehumeur, & Malette, 2015) samples.

**Brief Coping Orientations to Problem Experienced Scale.** The Brief Coping Orientations to Problem Experienced Scale (Brief COPE) is a 28-item self-report scale to assess behavioral and cognitive coping processes on a 4-point Likert scale ranging from 1 (not at all) to 4 (a lot) (Carver, 1997; Carver, Scheier, & Weintraub, 1989). It measures 14 coping categories, including Active Coping, Planning, Positive Reframing, Acceptance, Humor, Religion, Emotional support, Instrumental support, Self-distraction, Denial, Venting, Substance Use, Behavioral Disengagement, and Self-blame. Examples of items are “I’ve been looking for something good in what is happening” (positive reframing), “I’ve been refusing to believe that it has happened” (denial) and “I’ve been blaming myself for things that happened” (self-blaming). The scale has been used in previous research with Chinese (Wong et al., 2012) and Nigerian (Yussuf, Issa, Ajiboye, & Buhari, 2013) populations.

**Satisfaction with Life Scale.** The 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) will be used to measure global life satisfaction. Participants will rate on a 7-point scale with 1 indicating strongly disagree and 7 indicating strongly agree. The Chinese version of the scale showed good internal reliability (Cronbach’s alpha = .87, Yang, 2016). This scale has been used among Vietnamese and Nigerian (Dorahy et al., 2000) youth.

**Depression, Anxiety and Stress Scale.** The short version of Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) will be used in this study. The 21 items are grouped into three subscales, Depression, Anxiety, and Stress (7 items per subscale). Participants will indicate how much the item statements have applied to them over the past week using a 4-point scale. DASS-21 has good validity and internal consistency, and it has been validated among Chinese (Wong, Cheung, Chan, Ma, & Tang, 2006), Vietnamese (Le et al., 2017) and Nigerian (Coker, Coker, & Sanni, 2018).

**Socio-demographic Information.** In addition to the validated scales mentioned above, socio-demographic information including participants’ age, gender, education levels, religion, and their parents’ education levels will be collected.

### **Procedures**

Eligible participants will be directed to an online survey. They will first read a page with information of the study, including the purposes, procedures, confidentiality and their rights to withdraw from the study. After obtaining their consents online, participants will complete a self-administered web-based questionnaire at their own time and place. At the end of the questionnaire, a debriefing page will appear where participants will be provided with more information about the study, data storage, ethics approval number, and the contact details of the research team if they have any questions or would like to know the results in the future. Participants will also be reminded to print a copy of the debriefing form for their records. Their participation is entirely voluntary, and the questionnaire will take approximately 20 minutes to complete. All data collected will not contain identifying information, such as their names or student numbers, and will be stored as a password-protected file. Ethics approval has been obtained from the Human Research Ethics Committee of The University of Hong Kong, and approval from the ethics committees in Nigeria and Vietnam will be obtained prior to the survey administration.

### **Planned Data Analyses**

The comparisons will be conducted between the scores of psychological variables among the university students of the three regions. Sample size calculation is based on one-way (3 groups) ANOVA with 80% statistical power, .05 significance level, and .25 effect-size. A total of 252 participants with 84 participants in each group are required (G\*Power program; Faul, Erdfelder, Buchiner, & Lang, 2009). In addition, as recommended by Kline (2016), the minimum sample size-to-parameters ratio should be 10:1 in a path model. As there will be six potential parameters in the proposed model, the target sample size would be enough to perform the structural equation modelling.

The statistical analyses will be conducted using SPSS (version 24.0), and *p*-values of .05 or less will be considered statistically significant. The measurement model will be tested using confirmatory factor analysis, and the goodness-of-fit patterns will be assessed. The demographics characteristics among the three groups will be examined and compared using one-way ANOVA for continuous variables and *chi*-square for categorical variables. To test the integrative model, preliminary examinations of relationships between variables will be performed with bivariate correlation analyses and the model fits will be examined using AMOS. Moreover, one-way ANOVAs will also be conducted with psychological variables to examine if there are any differences in their resilience, coping styles, self-compassion, and psychological well-being.

## **Discussion**

A pilot study using the online questionnaire was carried out on 25 undergraduate students in Hong Kong to check the steps of the study. The objectives were to assess: (a) the feasibility of administration of questionnaires through the online platform; (b) the length of the questionnaire if it was too long; (c) the contents of the questionnaires; (d) the clarity of the instructions; and (e) the quality of the data collected (missing values, refusal rate). In addition, as self-compassion is a relatively new concept, the definition among the youth was also collected to examine if there were any conceptual differences. The participants of this pilot study reported that the length of the questionnaire was acceptable and they were able to understand the questions. Several demographic information, such as their family composition, parents' education, have been added to the revised questionnaire.

This cross-cultural study focusing on positive constructs will be conducted in three non-Western areas – Hong Kong, Nigeria, and Vietnam. The use of a web-based questionnaire has advantages over traditional mail or face-to-face survey as it has a higher response speed, is less costly and requires less labour (Cobanoglu, Moreo, & Warde, 2001). It is thought to be suitable for our research goals, timeline and our undergraduate participants. Nevertheless, the data quality should be monitored regularly.

This study has several potential limitations. There may be bias in response in the self-reported data. Additionally, causal relationships could not be inferred from this cross-sectional investigation. It is possible that the levels of psychological well-being of youth would affect their development of resilience, coping skills and self-compassion. However, such relationships cannot be shown in this study due to the design. Moreover, the participants of this study will be recruited from universities. Hence cautions have to be taken in generalising the results to youth populations in general.

### **Challenges of our cross-cultural study**

There are various challenges that could be faced when conducting a cross-cultural research study, a very good example is that our study which will be carried out in Hong Kong, Nigeria and Vietnam. Taking note of the cultural diversity in cross-cultural research is of paramount importance. One of the challenges that one should pay attention to is the equivalence in the instruments in order to identify any “true” cultural differences. This can only be achieved when researchers are mindful of the languages, settings, social issues and practice in various locations, as well as the way respondents make inferences in different cultures (Sekaran, 1983). In the current study, we will administer the questionnaire in the participants' native language. All the scales we use have been translated into Vietnamese and Chinese following standard steps, and some have been validated to capture the cultural variance, although it is still possible that not all items share the same meanings across cultures. In addition, as this study involves human participants, the procedures, such as giving research information, obtaining informed consent, collecting and storing data, have to adhere to ethical guidelines of the three regions. Therefore, ethical approvals will be sought from the three regions to ensure we maintain the ethical standards locally. Moreover, unexpected changes in the research plan could be present in a cross-cultural study; hence a well-planned research strategy with flexibility and constant communication are required in our study. Lastly, it is possible that the authors, who come from different backgrounds, might use their cultural filters to interpret the findings (Matsumoto & Juang, 2004). The results from these three regions should be compared and interpreted carefully and reflectively. In spite of these challenges, the cross-cultural similarities and differences potentially found in this study could generate valuable knowledge on how to cultivate these positive constructs in different cultures.

In conclusion, the results of this study will demonstrate how positive factors, resilience, adaptive coping and self-compassion, affect the psychological well-being of young people in different cultures, which could fuel further research to adopt a positive perspective to understand mental wellness. The improved understanding will have important implications for developing culturally-adapted programs and interventions for young people in preventing mental health problems.

### *Acknowledgments*

The authors would like to thank the Advanced Research Training Seminars (ARTS) Team of the International Association of Applied Psychology for the opportunity of this collaboration, as well as their insights and support.

*Funding/Conflict of Interest:* None.

### **References**

- Allen, A. B., & Leary, M. R. (2010). Self-Compassion, stress, and coping. *Social and personality psychology compass*, 4(2), 107-118. <https://doi.org/10.1111/j.1751-9004.2009.00246.x>
- Aloba, O., Olabisi, O., & Aloba, T. (2016). The 10-Item Connor–Davidson Resilience Scale: Factorial structure, reliability, validity, and correlates among student nurses in Southwestern Nigeria. *Journal of the American Psychiatric Nurses Association*, 22(1), 43-51. <https://doi.org/10.1177/1078390316629971>

- Anyan, F., & Hjemdal, O. (2016). Adolescent stress and symptoms of anxiety and depression: Resilience explains and differentiates the relationships. *Journal of Affective Disorder*, 203, 213-220. <https://doi.org/10.1016/j.jad.2016.05.031>
- Arslan, G. (2016). Psychological maltreatment, emotional and behavioral problems in adolescents: The mediating role of resilience and self-esteem. *Child Abuse & Neglect*, 52, 200-209. <https://doi.org/10.1016/j.chiabu.2015.09.010>
- Aspinwall, L. G., & Tedeschi, R. G. (2010). The value of positive psychology for health psychology: Progress and pitfalls in examining the relation of positive phenomena to health. *Annals of Behavioral Medicine*, 39(1), 4-15. <https://doi.org/10.1007/s12160-009-9153-0>
- Barnard, L. K., & Curry, J. F. (2011). Self-compassion: Conceptualizations, correlates, & interventions. *Review of General Psychology*, 15(4), 289-303. <https://doi.org/10.1037/a0025754>
- Benson, P. (2006). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents* (2nd ed., Completely updated and rev. ed., Jossey-Bass education series). San Francisco, California: Jossey-Bass.
- Brion, J. M., Leary, M. R., & Drabkin, A. S. (2014). Self-compassion and reactions to serious illness: The case of HIV. *Journal of Health Psychology*, 19(2), 218-229. <https://doi.org/10.1177/1359105312467391>
- Bluth, K., Mullarkey, M., & Lathren, C. (2018). Self-Compassion: A Potential Path to Adolescent Resilience and Positive Exploration. *Journal of Child and Family Studies*, 27(9), 3037-3047. <https://doi.org/10.1007/s10826-018-1125-1>
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the connor–davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20(6), 1019-1028. <https://doi.org/10.1002/jts.20271>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92-100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267. <https://doi.org/10.1037/0022-3514.56.2.267>
- Catalano, R. F., Hawkins, J. D., Berglund, M. L., Pollard, J. A., & Arthur, M. W. (2002). Prevention science and positive youth development: competitive or cooperative frameworks? *Journal of Adolescent Health*, 31(6), 230-239. [https://doi.org/10.1016/S1054-139X\(02\)00496-2](https://doi.org/10.1016/S1054-139X(02)00496-2)
- Chiu, Y.-W., & Ring, J. M. (1998). Chinese and Vietnamese immigrant adolescents under pressure: Identifying stressors and interventions. *Professional Psychology: Research and Practice*, 29(5), 444. <https://doi.org/10.1037/0735-7028.29.5.444>
- Cobanoglu, C., Moreo, P. J., & Warde, B. (2001). A comparison of mail, fax and web-based survey methods. *International Journal of Market Research*, 43(4), 1-15. <https://doi.org/10.1177/147078530104300401>
- Cohen, S., Kamarch, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396. <https://doi.org/10.2307/2136404>
- Coker, A. O., Coker, O. O., & Sanni, D. (2018). Psychometric properties of the 21-item Depression Anxiety Stress Scale (DASS-21). *African Research Review*, 12(2), 135-142. <https://doi.org/10.4314/afrev.v12i2.13>
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82. <https://doi.org/10.1002/da.10113>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13)
- Dorahy, M. J., Lewis, C. A., Schumaker, J. F., Akuamoah-Boateng, R., Duze, M., & Sibiya, T. E. (2000). Depression and life satisfaction among Australian, Ghanaian, Nigerian, Northern Irish, and Swazi university students. *Journal of Social Behavior and Personality*, 15(4), 569.
- Elliot, A. J., Thrash, T. M., & Murayama, K. (2011). A longitudinal analysis of self-regulation and well-being: Avoidance personal goals, avoidance coping, stress generation, and subjective well-being. *Journal of Personality*, 79(3), 643-674. <https://doi.org/10.1111/j.1467-6494.2011.00694.x>
- Faul, F., Erdfelder, E., Buchiner, A., & Lang, A. G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55(6), 647. <https://doi.org/10.1037/0003-066X.55.6.647>
- Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology*, 9(2), 103-110. <https://doi.org/10.1037/1089-2680.9.2.103>
- Garnezy, N., & Masten, A. S. (1986). Stress, competence, and resilience: Common frontiers for therapist and psychopathologist. *Behavior Therapy*, 17(5), 500-521. [https://doi.org/10.1016/S0005-7894\(86\)80091-0](https://doi.org/10.1016/S0005-7894(86)80091-0)
- Grafton, E., Gillespie, B., & Henderson, S. (2010). Resilience: The power within. *Oncology Nursing Forum*, 37(6), 698-705. <https://doi.org/10.1188/10.ONF.698-705>
- Harvey, J., & Delfabbro, P. H. (2004). Psychological resilience in disadvantaged youth: A critical overview. *Australian Psychologist*, 39(1), 3-13. <https://doi.org/10.1080/00050060410001660281>
- Ho, F. K., Louie, L. H., Chow, C. B., Wong, W. H., & Ip, P. (2015). Physical activity improves mental health through resilience in Hong Kong Chinese adolescents. *BMC Pediatrics*, 15, 48. <https://doi.org/10.1186/s12887-015-0365-0>

- Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Chatterji, S., Lee, S., Ormel, J., . . . Wang, P. S. (2009). The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. *Epidemiology and Psychiatric Sciences*, *18*(1), 23-33. <https://doi.org/10.1017/S1121189X00001421>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York, NY: Guilford Press.
- Lazarus, R. S. (1993). Coping theory and research: past, present, and future. *Psychosomatic Medicine*, *55*(3), 234-247. <https://doi.org/10.1097/00006842-199305000-00002>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company.
- Le, M. T. H., Tran, T. D., Holton, S., Nguyen, H. T., Wolfe, R., & Fisher, J. (2017). Reliability, convergent validity and factor structure of the DASS-21 in a sample of Vietnamese adolescents. *PLoS One*, *12*(7), e0180557. <https://doi.org/10.1371/journal.pone.0180557>
- Leary, M. R., Tate, E. B., Adams, C. E., Batts Allen, A., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, *92*(5), 887. <https://doi.org/10.1037/0022-3514.92.5.887>
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335-343. [https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, *71*(3), 543-562. <https://doi.org/10.1111/1467-8624.00164>
- Luthar, S. S., & Zelazo, L. B. (2003). Research on resilience: An integrative review. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 510-549). New York, NY, US: Cambridge University Press. <https://doi.org/10.1017/CBO9780511615788.023>
- Mann, T. (2001). Effects of future writing and optimism on health behaviors in HIV-infected women. *Annals of Behavioral Medicine*, *23*(1), 26-33. [https://doi.org/10.1207/s15324796abm2301\\_5](https://doi.org/10.1207/s15324796abm2301_5)
- Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, *2*(4), 425-444. <https://doi.org/10.1017/S0954579400005812>
- Matondo, J. P. M. (2012). Cross-cultural values comparison between Chinese and Sub-Saharan Africans. *International Journal of Business and Social Science*, *3*(11).
- Matsumoto, D., & Juang, L. (2004). *Culture and psychology* (3rd ed.). Belmont, CA: Wadsworth/Thomson.
- Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*(3), 223-250. <https://doi.org/10.1080/15298860309027>
- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, *41*(1), 139-154. <https://doi.org/10.1016/j.jrp.2006.03.004>
- Neff, K. D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity*, *9*(3), 225-240. <https://doi.org/10.1080/15298860902979307>
- Neff, K. D., Pisitsungkagarn, K., & Hsieh, Y.-P. (2008). Self-compassion and self-construal in the United States, Thailand, and Taiwan. *Journal of Cross-Cultural Psychology*, *39*(3), 267-285. <https://doi.org/10.1177/0022022108314544>
- Neff, K. D., Rude, S. S., & Kirkpatrick, K. L. (2007). An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of Research in Personality*, *41*(4), 908-916. <https://doi.org/10.1016/j.jrp.2006.08.002>
- Nguyen, T. T., Bellehumeur, C., & Malette, J. (2015). God images and resilience: A study of Vietnamese immigrants. *Journal of Psychology and Theology*, *43*(4), 271-282. <https://doi.org/10.1177/009164711504300405>
- O'Connor, D. B., & Shimizu, M. (2002). Sense of personal control, stress and coping style: A cross-cultural study. *Stress and Health*, *18*(4), 173-183. <https://doi.org/10.1002/smi.939>
- Oxford English Dictionary. (2019). Resilience. Retrieved from <https://en.oxforddictionaries.com/definition/resilience>
- Pauley, G., & McPherson, S. (2010). The experience and meaning of compassion and self-compassion for individuals with depression or anxiety. *Psychology and Psychotherapy: Theory, Research and Practice*, *83*(2), 129-143. <https://doi.org/10.1348/147608309X471000>
- Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, *48*(6), 757-761. <https://doi.org/10.1016/j.paid.2010.01.023>
- Sekaran, U. (1983). Methodological and theoretical issues and advancements in cross-cultural research. *Journal of International Business Studies*, *14*(2), 61-73. <https://doi.org/10.1057/palgrave.jibs.8490519>
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*(1), 5-14. <https://doi.org/10.1037//0003-066x.55.1.5>
- Shek, D. T., Sun, R. C., & Merrick, J. (2012). Positive youth development constructs: Conceptual review and application. *The Scientific World Journal, Article ID 152923*, 1-3. <https://doi.org/10.1100/2012/152923>
- Sinaiko, H. W., & Brislin, R. W. (1973). Evaluating language translations: Experiments on three assessment methods. *Journal of Applied Psychology*, *57*(3), 328. <https://doi.org/10.1037/h0034677>
- Sossou, M. A., Craig, C. D., Ogren, H., & Schnak, M. (2008). A qualitative study of resilience factors of Bosnian refugee women resettled in the southern United States. *Journal of Ethnic and Cultural Diversity in Social Work*, *17*(4), 365-385. <https://doi.org/10.1080/15313200802467908>

- Sun, X., Chan, D. W., & Chan, L.-k. (2016). Self-compassion and psychological well-being among adolescents in Hong Kong: Exploring gender differences. *Personality and Individual Differences, 101*, 288-292. <https://doi.org/10.1016/j.paid.2016.06.011>
- Tischler, V. A., & Vostanis, P. (2007). Homeless mothers: Is there a relationship between coping strategies, mental health and goal achievement? *Journal of Community & Applied Social Psychology, 17*(2), 85-102. <https://doi.org/10.1002/casp.879>
- Tran, M. D. (2017). Self-compassion: A quantity study among Vietnamese youth. *Vietnamese Psychological Journal, 10*(223), 13-23.
- Trompetter, H. R., de Kleine, E., & Bohlmeijer, E. T. (2017). Why does positive mental health buffer against psychopathology? An exploratory study on self-compassion as a resilience mechanism and adaptive emotion regulation strategy. *Cognitive therapy and research, 41*(3), 459-468. <https://doi.org/10.1007/s10608-016-9774-0>
- Warren, R., Smeets, E., & Neff, K. (2016). Self-criticism and self-compassion: risk and resilience: Being compassionate to oneself is associated with emotional resilience and psychological well-being. *Current Psychiatry, 15*(12), 18-28.
- Werner, E. E. (1990). Protective Factors and Individual Resilience. In S. J. M. J. P. Shonkoff (Ed.), *Handbook of early childhood intervention* (pp. 97-116). New York, NY, US: Cambridge University Press. <https://doi.org/10.1017/CBO9780511529320.008>
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*: Cornell University Press.
- Wong, C. C., & Mak, W. W. (2013). Differentiating the role of three self-compassion components in buffering cognitive-personality vulnerability to depression among Chinese in Hong Kong. *Journal of Counseling Psychology, 60*(1), 162. <https://doi.org/10.1037/a0030451>
- Wong, J. G., Cheung, E. P., Chan, K. K., Ma, K. K., & Tang, S. W. (2006). Web-based survey of depression, anxiety and stress in first-year tertiary education students in Hong Kong. *Australian and New Zealand Journal of Psychiatry, 40*(9), 777-782. <https://doi.org/10.1080/j.1440-1614.2006.01883.x>
- Wong, P. W., Fu, K.-W., Chan, K. Y., Chan, W. S., Liu, P. M., Law, Y.-W., & Yip, P. S. (2012). Effectiveness of a universal school-based programme for preventing depression in Chinese adolescents: a quasi-experimental pilot study. *Journal of Affective Disorders, 142*(1-3), 106-114. <https://doi.org/10.1016/j.jad.2012.03.050>
- Wood, A. M., & Tarriner, N. (2010). Positive clinical psychology: A new vision and strategy for integrated research and practice. *Clinical Psychology Review, 30*(7), 819-829. <https://doi.org/10.1016/j.cpr.2010.06.003>
- World Health Organization. (2017). *Maternal, newborn, child and adolescent health: Adolescents and mental health*. Retrieved from [http://www.who.int/maternal\\_child\\_adolescent/topics/adolescence/mental\\_health/en/](http://www.who.int/maternal_child_adolescent/topics/adolescence/mental_health/en/)
- World Health Organization. (April, 2018). *Mental Disorders*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs396/en/>
- Yang, X. (2016). Self-compassion, relationship harmony, versus self-enhancement: Different ways of relating to well-being in Hong Kong Chinese. *Personality and Individual Differences, 89*, 24-27. <https://doi.org/10.1016/j.paid.2015.09.006>
- Yu, X.-n., Lau, J. T., Mak, W. W., Zhang, J., & Lui, W. W. (2011). Factor structure and psychometric properties of the Connor-Davidson Resilience Scale among Chinese adolescents. *Comprehensive Psychiatry, 52*(2), 218-224. <https://doi.org/10.1016/j.comppsy.2010.05.010>
- Yussuf, A. D., Issa, B. A., Ajiboye, P. O., & Buhari, O. I. (2013). The correlates of stress, coping styles and psychiatric morbidity in the first year of medical education at a Nigerian University. *African Journal of Psychiatry (Johannesbg), 16*(3), 206-215. <https://doi.org/10.4314/ajpsy.v16i3.28>

## Mindful Contextualization Exploring the Limits of Cross-Cultural Mindfulness Measurement

Laura K. Johnson<sup>1</sup>, Andrea Antoniuk<sup>2</sup>, Rajneesh Choubisa<sup>3</sup>,  
Amna Noureen<sup>4</sup>, & Khadija Misbah<sup>5</sup>

### Abstract

Mindfulness has become widely studied with the development of measures such as the Kentucky Inventory of Mindfulness Skills (KIMS). Given that mindfulness is a concept that spans continents and centuries, how certain can we be that the KIMS adequately measures this complex construct? Our study addresses the paucity of validity evidence for cross-culture measurement using the KIMS in countries where mindfulness may have different cultural interpretations. Mindfulness, as measured by the KIMS, is a construct that may not necessarily “travel” given that Western and Eastern countries may conceptualize it differently (i.e. clinical origins vs. spiritual origins). One way to assess if the same construct is being measured across groups is measurement invariance (MI). To assess MI, we conducted confirmatory factor analyses of 1251 university students in Western countries, obtained during retrospective data analyses, and with data our team collected from 233 university students in India. Results indicated that there were substantial differences in global fit indices between groups and configural invariance was not obtained. This suggests that the factor structure of mindfulness is not being interpreted the same way in the Western and Indian samples. Potential reasons for this result are suggested, along with the importance of assessing cross-cultural validity evidence and establishing measurement invariance when conducting cross-cultural research using self-report scales.

**Keywords:** Mindfulness, Kentucky Inventory of Mindfulness Skills, KIMS, cross-cultural validation, contextualization, measurement invariance.

### Introduction

#### Mindfulness: A Brief History of the Construct

Mindfulness is well known as the practice of non-judgmentally accepting the present moment (e.g., Baer, Smith, & Allen, 2004). This practice is thought to be cultivated through formal meditation, with an objective being to apply mindfulness informally in one’s own daily life (Kabat-Zinn, 2012). Mindfulness can be traced pre-1816 with the Buddhist meditative practices of *Vipassanā* (Kabat-Zinn, 2012). Speculatively, mindfulness could be significantly older through an emergence and maintenance in oral traditions. Other scholars contend that mindfulness practices have also appeared in Christianity, Judaism, Hinduism and Islam (Trousselard, Steiler, Claverie, & Canini, 2014), suggesting that this notion of mindfulness has spanned continents and histories since its inception.

Kabat-Zinn (2012) is credited with bringing mindfulness to North America after studying with Buddhist practitioners, and secularizing mindfulness as a pain treatment in 1979. Mindfulness gained popularity as a therapeutic intervention shortly thereafter, and was blended with Cognitive-Behavioral Therapy (CBT) in 1995 to treat depression relapse. This blended intervention was named Mindfulness-Based Cognitive Therapy (MBCT), and also proved successful in treating Generalized Anxiety Disorder and Bipolar disorder (Perry-Parrish, Copeland-Linder, Webb, Shields, & Sibinga, 2016). Mindfulness-based therapies have been used in numerous clinical applications, including Attention Deficit Hyperactivity Disorder (e.g., Cairncross & Miller, in press), eating disorders (e.g., Beccia, Dunlap, Hanes, Courneene, & Zwickey, 2018), internalizing disorders (e.g., Chiesa & Serretti, 2011), and bipolar disorder (e.g., Chiesa & Serretti, 2011). Mindfulness-based interventions have been used throughout the life course, treating children, adolescents, and adults. Mindful practices have also gained attention as a protective factor against stressors (Jayawardene, Lohrmann, Erbe, & Torabi, 2017).

It is apparent from this brief history of mindfulness that it has been studied by many different religious practitioners, medical and psychological professionals, and laypeople. Although mindfulness may be conceptualized similarly among these groups, it is possible that differences may exist (for details, see Schmidt, 2011). For instance,

---

<sup>1</sup> University of Western Ontario, London, Canada

<sup>2</sup> University of Alberta, Edmonton, Canada

<sup>3</sup> BITS Pilani, India

<sup>4</sup> Pakistan Institute of Living & Learning, Institute of Psychiatry, Benazir Bhutto Hospital, Rawalpindi, Pakistan

<sup>5</sup> York University, Toronto, Canada

religious practitioners may use mindfulness as a focal point to connect with a deity, while medical practitioners may use mindfulness differently. It is well known that context shapes ideas, which includes language, culture, nationality, and innumerable other factors. Similarly, mindfulness may be shaped by context. Given that mindfulness spans centuries, cultures, and countries, a logical question is whether mindfulness is universally-perceived throughout all of these lenses, or whether mindfulness is experienced differently in different cultures and countries.

### **Measuring Mindfulness**

The introduction of mindfulness interventions brought forth numerous studies on the efficacy of mindfulness-based treatments. As such, researchers and clinicians developed numerous scales to measure mindfulness (Bergomi, Tschacher, & Kupper, 2013). A few examples are the Five-Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006), the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), and the Toronto Mindfulness Scale (TMS; Lau et al., 2006). For the current study, we chose the Kentucky Inventory of Mindful Skills (KIMS) because it is an often-used measure of both state and trait mindfulness with many potential datasets to implement factor analysis. In addition, the KIMS is used throughout the world without evidence of cross-cultural validity. Although one can use any of these scales, there may be potential problems with respect to making valid, generalizable claims about mindfulness (see Grossman, 2008).

The KIMS is a self-report scale developed for assessing therapeutic outcomes in Dialectical Behavior Therapy (DBT; Baer et al., 2004; Perroud, Nicastro, Jermann, & Huguelet, 2012). The scale was derived using two student samples and one clinical sample in the United States (Baer et al., 2004). The KIMS measures mindfulness using four facets: Observing, Describing, Acting With Awareness, and Accepting Without Judgment (Baer et al., 2004; Medvedev, Siegert, Kersten, & Krageloh, 2016). The KIMS has been used in over 500 studies, according to our preliminary review, for both clinical and non-clinical populations. As of November 2018, the scale has over 2000 citations according to Google Scholar, and almost 800 citations according to Web of Science.

Since its inception, the KIMS scale has fared well with respect to psychometric tests examining validity and reliability evidence (Baer, 2019). Although mindfulness measures possess psychometric properties (i.e., Baer, 2019), our review of extant studies using the KIMS scale indicated that validity evidence is rarely evaluated. Researchers also tend to use standardized tools and instruments (with regard to cross-cultural research) while ignoring the stipulated guidelines (e.g., Mathur, Sharma & Bharath, 2016 etc.). This lack of rigor not only encourages bad science, but is also destructive to research objectives, as appropriate adaptation, conversion, and transformations were not adequately carried out to contextualize the measures before their usage. Furthermore, claims using the KIMS scale that an individual or group *is* particularly mindful, *not* mindful, or *increasing* in mindfulness are often made without considering the construct or cross-cultural validity of the KIMS scale. Comparisons are made using a biased normative sample (i.e., university students used in the KIMS scale's inception) that may or may not be representative of university students from different cohorts or countries. This concern is supported by studies such as Feng, Krageloh, Billington, and Siegert (2017) who found that the KIMS scale yielded low agreement with Buddhist traditions when the facets were rated by advanced Buddhist practitioners from three branches of Buddhism. Seigling and Petrides (2014) have also reiterated that differences among mindfulness scales in terms of breadth and focus (i.e., construct validity) can be found in mindfulness psychometric literature owing to differences in Eastern and Western conceptualizations of the mindfulness construct (see Schmidt, 2011, for a review). Recent investigations suggest that patterns of validity associations have also been shown to vary across samples with regard to the correlations among factors and the prediction of psychological symptoms (Ireland, Day & Clough, 2018). That is, these scales cannot and should not be used blindly (see Grossman, 2008).

Herein lies the problem: a paucity of research is available that explores the ability of the KIMS scale to measure mindfulness as practiced by individuals in different cultures. Without assessing the cross-cultural validity in measuring mindfulness using the KIMS, it is difficult, perhaps impossible, to make a valid claim that anyone is particularly mindful outside the interpretation of mindfulness developed by Baer (2019). Studies that make mindfulness claims without evaluating the validity of the KIMS scale may unknowingly or unintentionally incur validity threats to their results.

Translations for the KIMS exist in Dutch (Dekeyser, Raes, Leijssen, Leysen, & Dewulf, 2008), Swedish (Hansen, Lundh, & Wångby & Lundh, 2009), German (Ströhle, Nachtigall, Michalak, & Heidenreich, 2010), French (Nicastro, Jermann, Bondolfi, & McQuillan, 2010), and Spanish (Ruiz, 2014). In non-European countries, Arabic (Aldahadha, 2013) and Chinese (Xu et al., 2015) translations also exist. As shown in Table-1, none of these translations report measurement invariance testing with the English KIMS. Some report confirmatory factor analysis (CFA) fit indices (Table-1), most report correlations between sub-scales (Table-2), and many report convergent validity with other

constructs. However, the lack of measurement invariance tests, especially considering the fact that a study investigating the KIMS in Thailand using the English KIMS failed to find configural invariance (Christopher, Charoensuk, Gilbert, Neary, & Pearce, 2009). This suggests that the mindfulness construct, as assessed by the KIMS, is not being interpreted the same way between American and Thai participants. Without establishing measurement invariance, researchers cannot be certain that, when assessing different groups, that the scale is measuring an identical construct with the same underlying structure (van de Schoot, Lugtig, & Hox, 2012).

### **Assumptions and Hypothesis**

Our study addressed the research gap in cross-cultural validation evidence for the KIMS. We aimed to collect new KIMS data from India, Canada and Pakistan, and compare our findings with a much broader and holistic previously validated Western dataset to assess the cross-cultural congruency and validity of this scale. We thus aimed to use extant data sets to further assess cross-cultural validity, and hypothesized that scale contextualization also does not lead to adequate construct validation.

### **Systematic Analysis of Western KIMS Data**

#### **Search Procedure**

The search term “Kentucky Inventory of Mindfulness Skills’ OR KIMS” was used to search the electronic databases PsycINFO and PsychARTICLES. After obtaining several irrelevant results (e.g., an author’s last name being ‘Kims’), the search term was revised to “Kentucky Inventory of Mindfulness” and the following databases were then searched: PubMed, CINAHL, JSTOR, Scopus, PILOTS, and the Education Database. The searches were conducted in June 2018. In total, 599 results were identified through database searches, which were reduced to 20 after applying various screening criteria and put into a schematic flowchart following PRISMA guidelines (c.f. Moher, Liberati, Tetzlaff, Altman, 2009). Figure-1 shows a diagram illustrating the selection, screening, and inclusion process for studies.

*Figure 1: PRISMA flow chart of literature search and inclusion/exclusion criteria.*

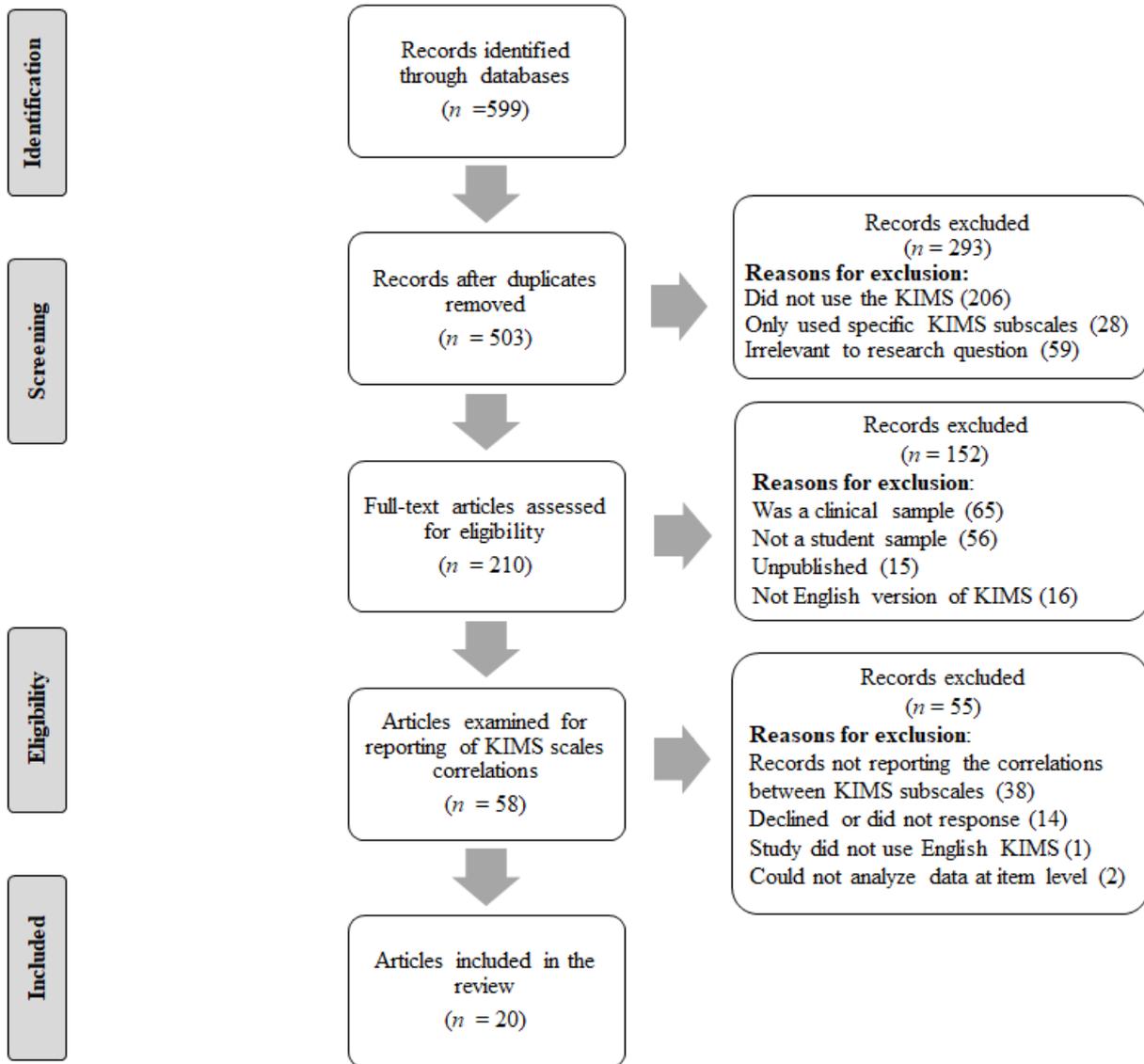


Table 1. Comparison of fit indices and measurement invariance for translations of the KIMS.

Language	Four-Factor Model Fit			Measurement Invariance	
	$\chi^2(df)$	RMSEA	CFI		SRMR
English <sup>a</sup>	Not reported	.07	.95	Not reported	N/A
Dutch <sup>b</sup>	Students: 124.16 (98) $p < .05$	.05	.98	.04	Yes, but only between the student and parent samples (both Dutch)
	Parents: 245.96 (98) $p < .001$	.08	.94	.05	
German <sup>c</sup>	152.911 (50) $p < .05$	.07	.96	Not reported	N/A
Swedish <sup>d</sup>	N/A	N/A	N/A	N/A	N/A
Spanish <sup>e</sup>	N/A	N/A	N/A	N/A	N/A
French <sup>f</sup>	171.41 (98) $p < .01$	.06	.94	.06	N/A
Arabic <sup>g</sup>	N/A	N/A	N/A	N/A	N/A
Chinese <sup>h</sup>	N/A	N/A	N/A	N/A	N/A

Note. <sup>a</sup>Baer et al. (2004). <sup>b</sup>Dekeyser et al. (2008). <sup>c</sup>Ströhle et al. (2010). <sup>d</sup>Hansen et al. (2009). <sup>e</sup>Ruiz. (2014). <sup>f</sup>Nicastro et al. (2010). <sup>g</sup>Aldahadha (2013). <sup>h</sup>Xu et al. (2015).

Table 2. Comparison of subscale correlations for translations of the KIMS.

	$r_{OBS,DES}$	$r_{OBS,AWA}$	$r_{OBS,AWJ}$	$r_{DES,AWA}$	$r_{DES,AWJ}$	$r_{AWA,AWJ}$
English <sup>a</sup>	.22**	.09	-.14**	.26**	.34**	.29**
Dutch <sup>b</sup>	.36***	.12*	-.11*	.28***	.16**	.32***
German <sup>c</sup>	.31***	.19***	.07	.21***	.20***	.34***
Swedish <sup>d</sup>	.29**	-.01	-.35**	.10	.11	.38**
Spanish <sup>e</sup>	.46***	.32***	-.08	.37***	-.06	.33***
French <sup>f</sup>	.13	.10	-.07	.38***	.45***	.39***
Arabic <sup>g</sup>	N/A	N/A	N/A	N/A	N/A	N/A
Chinese <sup>h</sup>	N/A	N/A	N/A	N/A	N/A	N/A

Note. OBS = Observing, DES = Describing, AWA = Acting with Awareness, AWJ = Accepting Without Judgment. <sup>a</sup>Baer et al. (2004). <sup>b</sup>Dekeyser et al. (2008). <sup>c</sup>Ströhle et al. (2010). <sup>d</sup>Hansen et al. (2009). <sup>e</sup>Ruiz. (2014). <sup>f</sup>Nicastro et al. (2010). <sup>g</sup>Aldahadha (2013). <sup>h</sup>Xu et al. (2015). \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Inclusion and Exclusion Criteria

The authors mutually decided on inclusion criteria prior to commencing the database search. Inclusion criteria were 1) the sample comprised university students, 2) the full English KIMS was used, and 3) the article was published in a peer-reviewed journals. Exclusion criteria included 1) a clinical sample was used, 2) a translation of the KIMS was used, or 3) only part of the KIMS was used.

### Contacting Researchers

Forty-eight researchers were contacted to ask to use their KIMS data for the factor analysis. Of those contacted, six authors granted access to their datasets as of November, 2018. Of those, three studies were not included, as either the data were unable to be analyzed at the item level ( $n = 2$ ) or the study was discovered as not meeting the

inclusion criteria ( $n = 1$ ). The studies whose datasets were received and used have been marked with an asterisk "\*" symbol in the references section.

### Collection of Indian KIMS Data

#### Participants

The Indian sample was collected in three stages between 2016 and 2018, and data were pooled (i.e., individual sample sizes were  $n = 109$ ,  $n = 116$ , and  $n = 77$ ). After inspecting the dataset, we removed 69 duplicate entries, resulting in a final sample of 233 participants. This sample size exceeds Guilford's (1954) recommended minimum of 200 participants for factor analysis. Although data from Canada and Pakistan were also collected, because of their small sample size ( $n < 100$ ), these datasets were not included in the current analyses.

#### Materials

**Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al., 2004).** As previously described, the KIMS is a 39-item self-report measure of mindfulness that assess four dimensions: Observing (12 items; e.g., *I pay attention to whether my muscles are tense or relaxed*), Describing (8 items; e.g., *I can easily put my beliefs, opinions, and expectations into words*), Acting With Awareness (10 items; e.g., *When I'm doing something, I'm only focused on what I'm doing, nothing else*), and Accepting Without Judgment (9 items; e.g., *I tend to evaluate whether my perceptions are right or wrong* (reverse-keyed)). The KIMS has been demonstrated to have good psychometric properties (Baer et al., 2004; Baer, 2019; Park, Reilly-Spong, & Gross, 2013). The KIMS has been translated into Dutch (Dekeyser et al., 2008), Swedish (Hansen et al., 2009), German (Ströhle et al., 2010), French (Nicastro et al., 2010), Spanish (Ruiz, 2014), Arabic (Aldahadha, 2013), and Chinese (Xu et al., 2015). Descriptive statistics for the scale in both the Western sample and the Indian sample are presented in Table-3.

#### Procedure

Undergraduate students from an Indian university and a Pakistani university individually completed a pen-and-pencil version of the KIMS. Indian students who were finally included in the pooled sample were enrolled in two psychology courses and provided informed consent before filling the pen-and-pencil version of questionnaire. Pakistani students also provided their informed consent before completing the questionnaire, whereas undergraduate students from one Canadian university completed an online questionnaire of the KIMS. We were not able to collect data from two Canadian universities because the associated researchers could not obtain ethical clearance from their respective institutions. The included participants were temporarily debriefed and instructed about the questionnaire and its purpose. The participants were instructed that there were no right or wrong responses and their participatory information would be kept confidential and used anonymously.

#### Planned Analyses

The KIMS was tested for measurement invariance in an Indian sample using confirmatory factor analyses (CFAs) in comparison with a large Western sample. Details for pooling the datasets and testing for configural invariance are presented in the following sections with all necessary details.

#### Data Analysis and Compilation

The final sample for the English KIMS data included 1251 undergraduate students aged 17 - 59 ( $M_{age} = 20.46$  years,  $SD_{age} = 2.36$ ), with women comprising 82.6% of the participants. As specified in Section 2.2, all data were collected from students in non-clinical samples using the full English version of the KIMS. Data for the factor analysis came from three studies in the United States and the Netherlands. The final sample for the Indian dataset included 233 undergraduate students aged 17 to 32 ( $M_{age} = 21.12$  years,  $SD_{age} = 2.47$ ), with men constituting 71.6% ( $n = 167$ ) and women comprising 28.4 % ( $n = 66$ ) of the total participants. Descriptive statistics for the KIMS subscales in each sample are presented in Table-3.

#### Measurement Invariance

**Statistical software.** Measurement invariance was assessed by conducting confirmatory factor analyses (CFAs) in *Mplus Version 7.4* (Muthén & Muthén, 1998–2015). Internal consistency reliabilities and descriptive statistics were conducted in *SPSS*.

**Fit indices.** Because  $\chi^2$  is sensitive to sample size (Lai & Yoon, 2015; Schermelleh-Engel, Moosbrugger, & Müller, 2003), values of  $\chi^2$  in each model were interpreted with caution, especially given the size of the Western sample. Additionally, modifications were avoided, given that 1) Baer et al. (2004) reported excellent model fit in their original scale development, 2) the use of the scale is widespread, and 3) successful adaptations of the full KIMS have been obtained in other countries, such as France (c.f. Nicastro et al., 2010) and Germany (c.f. Ströhle et al., 2010). As such, model fit for all CFAs was assessed by examining the Root Mean Square of Approximation (RMSEA; Steiger, 1990), Comparative Fit Index (CFI; Bentler, 1990), and Standardized Root Mean Square Residual

(SRMR). For the RMSEA, a 90% confidence interval was also calculated, as recommended by MacCallum, Browne, and Sugawara (1996).

In general, values for the RMSEA less than .08 and .05 demonstrate acceptable and good fit, respectively (MacCallum et al., 1996). Values for the CFI above .90 and .95 demonstrate good fit, with values for the SRMR below .10 indicating acceptable fit, and values below .05 indicating good fit (Schermelel-Engel et al., 2003).

Table 3: Descriptive statistics for KIMS subscales in the Western and Indian samples.

	Western Sample (n=1251)				Indian Sample (n=233)			
	$\alpha$	M (SD)	Skewness	Kurtosis	$\alpha$	M (SD)	Skewness	Kurtosis
Observing	.85	2.99 (0.35)	.04	-.26	.64	3.18 (0.16)	-.01	.23
Describing	.87	3.33 (0.20)	-.13	-.18	.53	3.17 (0.12)	-.01	.10
Acting With Awareness	.74	2.91 (0.29)	-.13	-.01	.50	3.10 (0.19)	.13	.40
Accepting Without Judgment	.89	3.37 (0.29)	-.27	-.40	.57	3.09 (0.12)	-.24	.73

Note.  $N = 1251$  for the Western sample and  $N = 233$  for the Indian sample. Means reflect average item means. Items were scored on a 5-point Likert-type scale, with higher values indicating greater endorsement of the item.

Table 4. Summary of Single-Group and Multi-Group CFAs (all items)

	$\chi^2$ (df)	RMSEA	CFI	SRMR
Western CFA	4705.61 (696) $p < .001$	.068 [90% CI: .066 - .070]	.79	0.09
Indian CFA	1051.69 (696) $p < .001$	.048 [90% CI: .042 - .054]	.55	0.07
Multi-Group CFA	5770.58 (1396) $p < .001$	.065 [90% CI: .063 - .067]	.78	0.09

### Single-Group CFAs

Prior to conducting the multi-group CFA and comparing groups, single-group CFAs were conducted on the Western and Indian samples separately to establish baseline fit indices. For all CFAs, maximum likelihood (ML) estimation was used. However, unlike Baer et al. (2004), traditional factor analysis was used rather than item parceling. The details of the single-group CFAs for each sample are described below. For a summary, refer to Table -4.

#### Western sample

First, a CFA was performed on the Western sample to establish good fit in the original mindfulness scale. The original model consisted of four factors, reflecting the four subscales of the KIMS (i.e. Observing, Describing, Acting with Awareness, and Awareness without Judgment). Consistent with the original KIMS (i.e. Baer et al., 2004), a higher-order structure was not imposed, although correlations between the four factors were allowed. The results of the original CFA indicated acceptable fit for some fit indices (i.e. RMSEA, SRMR), but poor fit for others (i.e. CFI),  $\chi^2$  (696) = 4705.61,  $p < .001$ , RMSEA = .068 [90% CI: .066 - .070], CFI = .79, SRMR = 0.09.

Table 5: Standardized CFA Factor Loadings for the Western and Indian Samples

Table 5: Standardized CFA Factor Loadings for the Western and Indian Samples

	Observing	Describing	Accepting without Judgment	Acting with Awareness
OBS_1	<b>.50</b> / .31			
OBS_5	<b>.62</b> / <b>.46</b>			
OBS_9	<b>.63</b> / <b>.45</b>			
OBS_13	<b>.65</b> / .30			
OBS_17	<b>.61</b> / .39			
OBS_21	<b>.67</b> / .35			
OBS_25	<b>.58</b> / .27			
OBS_29	<b>.49</b> / .38			
OBS_30	.39 / <b>.49</b>			
OBS_33	<b>.56</b> / .25			
OBS_37	<b>.60</b> / .35			
OBS_39	<b>.49</b> / .29			
DES_2		<b>.78</b> / .34		
DES_6		<b>.76</b> / .29		
DES_10		<b>.63</b> / <b>.43</b>		
DES_14R		<b>.76</b> / <b>.43</b>		
DES_18R		<b>.75</b> / <b>.53</b>		
DES_22R		<b>.57</b> / .34		
DES_26		<b>.62</b> / .24		
DES_34		<b>.61</b> / .30		
AWJ_4R			<b>.69</b> / .39	
AWJ_8R			.37 / .29	
AWJ_12R			<b>.75</b> / <b>.48</b>	
AWJ_16R			<b>.79</b> / <b>.61</b>	
AWJ_20R			<b>.71</b> / .19	
AWJ_24R			<b>.62</b> / .28	
AWJ_28R			<b>.83</b> / .38	
AWJ_32R			<b>.81</b> / <b>.46</b>	
AWJ_36R			<b>.72</b> / .26	
AWA_3R				<b>.70</b> / <b>.42</b>
AWA_7				<b>.44</b> / .16
AWA_11R				.39 / .23
AWA_15				.34 / .31
AWA_19				.11 / .25
AWA_23R				<b>.70</b> / .33
AWA_27R				<b>.44</b> / <b>.41</b>
AWA_31R				<b>.52</b> / .29
AWA_35R				<b>.67</b> / .35
AWA_38				.27 / .23

Note. Western / Indian factor loadings. Factor loadings >.40 are in bold-face. All loadings are significant. OBS = Observing, DES = Describing, AWJ = Accepting Without Judgment, AWA = Acting with Awareness. R= Reverse-coded item.

An examination of the factor loadings (Table-5) revealed that most items exceeded the recommended cut-off of .40, except for one item on the Observing subscale, one item on the Accepting without Judgment subscale, and four items on the Acting with Awareness subscale, which potentially explains why a lower CFI value than expected was obtained. CFAs were run both with the full set of items and with the removal of items loading <.40 on the English sample. This resulted in the removal of five items (i.e., AWJ\_8R, AWA\_11R, AWA\_15, AWA\_19, AWA\_38). Item OBS\_30 was kept even though it had a loading of .39, as it approached the .40 cut-off and also had a good loading in the Indian sample, unlike the other items that were removed. Removing these five items improved CFI fit, but it is still below .90 for all samples (see Table-6).

**Indian sample:** A second CFA was conducted separately on the Indian sample to examine global fit indices. The results of the CFA in the Indian sample (all items) indicated excellent fit for the RMSEA and good fit for the SRMR, but very poor model fit for the CFI,  $\chi^2(696) = 1051.69$ ,  $p < .001$ , RMSEA = .048 [90% CI: .042 - .054], CFI = .55, SRMR = 0.07. In comparison to the Western sample, the RMSEA and SRMR values are better, but the CFI came out substantially worse. In the reduced-item CFA, fit indices were slightly better, but still poor:  $\chi^2(521) = 775.14$ ,  $p < .001$ , RMSEA = .047 [90% CI: .040 - .054], CFI = .61, SRMR = 0.07.

Table 6. Summary of Single-Group and Multi-Group CFAs (reduced)

	$\chi^2$ (df)	RMSEA	CFI	SRMR
Western CFA	3145.69 (521) $p < .001$	.063 [90% CI: .061 - .066]	.85	0.08
Indian CFA	775.14 (521) $p < .001$	.047 [90% CI: .040 - .054]	.61	0.07
Multi-Group CFA	3939.16 (1047) $p < .001$	.061 [90% CI: .059 - .063]	.84	0.08

Note. The following items were removed before running these CFAs because of poor factor loadings in the English CFA: AWJ\_8R, AWA\_11R, AWA\_15, AWA\_19, AWA\_38.

### Multi-Group CFAs

The multi-group CFA comparing the Western sample and the Indian sample resulted in fit indices that were similar to those obtained from the CFA of the Western sample, CFI,  $\chi^2$  (1396) = 5770.58,  $p < .001$ , RMSEA = .065 [90% CI: .063 - .067], CFI = .78, SRMR = 0.09. A similar pattern emerged for the reduced CFA, although the CFI was higher in both the Western CFA and the multi-group CFA. It has been suggested that the CFI is not an effective fit index for testing the measurement invariance, as it can contradict RMSEA results (Lai & Yoon, 2015). As such, comparing CFI in the multi-group CFA stage is not easily interpreted. Additionally, given that the substantially larger Western sample may be given more weight in calculating fit indices, and given the differences in fit indices between the two samples (i.e. RMSEA, CFI), configural invariance was not obtained. Such a trend suggests that the datasets are behaving differently. For a comparison with the single-group CFAs, refer to Table-4 (all items) and Table-6 (reduced items).

### Discussion

The goal of the current study was twofold: *First*, to evaluate the cross-cultural validity of a popular mindfulness measure namely the KIMS and *second*, to use this to demonstrate the importance of cross-cultural validation (*viz.* testing for measurement invariance) testing before conducting research with measures in other cultures.

### Limitations

As apparent, this study is limited by its sample because our collected data may be subject to cohort effects. For consistency, both samples included university students, which may not generalize to other populations, or university populations from other cohorts. Second, our Canadian sample was small, obtained through convenience sampling, and localized to one province, which may not be representative of the general Canadian population. We also conceptualized the Canadian sample as a Western sample, and our sample size may not be representative of Western (i.e., North American) perspectives. Third, the KIMS were administered in English to the students in the Indian and Pakistani sample. It may be possible that measurement invariance was confounded by language barriers rather than different conceptualizations of the mindfulness construct or cultural differences. As such, in-depth analysis with a sufficiently large dataset is warranted. Additionally, it is possible that other measures of mindfulness may travel better than the KIMS, such as the Five-Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006), the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), or the Toronto Mindfulness Measure in terms of their measurement invariance (cf. Ireland, Day & Clough, 2018). The popularity of these scales warrants further investigation into their cross-cultural validity.

### Future Directions

Given the limitations discussed above, future research on mindfulness should keep in mind potential cross-cultural differences when assessing mindfulness in other countries, such as India. Additionally, it would be of interest to research mindfulness in an Indian sample after translating and cross-culturally validating a measure to explore cultural differences in mindfulness meditation and related behaviors. We also recommend future research that explores the cross-culture validity of other mindfulness measures (e.g., the Five-Facet Mindfulness Questionnaire).

*Acknowledgments:* The authors would like to thank the researchers who contributed data for analysis in the current study.

*Funding:* The first author was funded by the Canadian Graduate Scholarship (CGS-M) Grant from the Social Sciences and Research Council (SSHRC) and the Ontario Graduate Scholarship (OGS-M) while analyzing data and preparing this manuscript. The second author was funded with a Canadian Graduate Scholarship (CGS-M)

from the Social Sciences and Research Council (SSHRC), Walter H. Johns Graduate Fellowship, and Queen Elizabeth II Graduate Scholarship.

*Conflicts of Interest:* The authors have no conflict of interest to declare.

## References

- Aldahadha, B. (2013). The effects of Muslim praying meditation and transcendental meditation programs on mindfulness among the University of Nizwa students. *College Student Journal*, 47, 668-676. Retrieved from [https://www.researchgate.net/publication/324438765\\_The\\_effects\\_of\\_Muslim\\_praying\\_meditation\\_and\\_transcendental\\_meditation\\_programs\\_on\\_mindfulness\\_among\\_the\\_University\\_of\\_Nizwa\\_students](https://www.researchgate.net/publication/324438765_The_effects_of_Muslim_praying_meditation_and_transcendental_meditation_programs_on_mindfulness_among_the_University_of_Nizwa_students)
- \*Alleva, J., Roelofs, J., Voncken, M., Meevissen, Y., & Alberts, H. (2014). On the relation between mindfulness and depressive symptoms: Rumination as a possible mediator. *Mindfulness*, 5, 72–79. doi:10.1007/s12671-012-0153-y
- \*\*Baas, M., Nevicka, B., Ten Velden, F. S. (2014). Specific mindfulness skills differentially predict creative performance. *Personality and Social Psychology Bulletin*, 40, 1092–1106. doi:10.1177/0146167214535813
- Baer, R. A. (2019). Assessment of mindfulness by self-reports. *Current Opinion in Psychology*, 28, 42–48. doi:10.1016/j.copsyc.2018.10.015
- Baer, R. A., Smith, G. & Allen, K. (2004). Assessments of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11, 191–206. doi:10.1177/1073191104268029
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J. & Toney, L. R. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27–45. doi:10.1177/1073191105283504
- Beccia, A. L., Dunlap, C., Hanes, D. A., Courneene, B. J., & Zwickey, H. L. (2018). Mindfulness-based eating disorder prevention programs: A systematic review and meta-analysis. *Mental Health & Prevention*, 9, 1-12. doi:10.1016/j.mhp.2017.11.001
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246. doi:10.1037//0033-2909.107.2.238
- \*\*Bergen-Cico, D., & Cheon, S. (2013). The mediating effects of mindfulness and self-compassion on trait anxiety. *Mindfulness*, 5, 505–519. doi:10.1007/s12671-013-0205-y
- Bergomi, C., Tschacher, W., & Kupper, Z. (2013). The assessment of mindfulness with self-report measures: Existing scales and open issues. *Mindfulness*, 4(3), 191–202. Doi:org.login.ezproxy.library.ualberta.ca/10.1007/s12671-012-0110-9
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822–848. doi:10.1037/0022-3514.84.4.822
- Cairncross, M., & Miller, C. J. (in press). The effectiveness of mindfulness-based therapies for ADHD: A meta-analytic review. *Journal of Attention Disorders*. doi: 10.1177/1087054715625301
- Chiesa, A., & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research*, 3, 441. doi:10.1016/j.psychres.2010.08.011
- Christopher, M. S., Charoensuk, S., Gilbert, B. D., Neary, T. J., & Pearce, K. L. (2009). Mindfulness in Thailand and the United States: A case of apples versus oranges? *Journal of Clinical Psychology*, 65, 590-612. doi:10.1002/jclp.20580
- Dekeyser, M., Raes, F., Leijssen, M., Leysen, S., & Dewulf, D. (2008). Mindfulness skills and interpersonal behaviour. *Personality and Individual Differences*, 44, 1235–1245. doi:10.1016/j.paid.2007.11.018
- Feng, X. J., Krägeloh, C. U., Billington, D. R., & Siegert, R. J. (2018). To what extent is mindfulness as presented in commonly used mindfulness questionnaires different from how it is conceptualized by senior ordained Buddhists? *Mindfulness*, 9, 441–460. doi:10.1007/s12671-017-0788-9
- Grossman, P. (2008). On measuring mindfulness in psychosomatic and psychological research. *Journal of Psychosomatic Research*, 64, 405-408. doi: 10.1016/j.jpsychores.2008.02.001
- Guilford, J. P. (1954). *Psychometric methods* (2nd ed.). New York: McGraw-Hill.
- Hansen, E., Lundh, L., Homman, A., & Wångby & Lundh, M. (2009). Measuring mindfulness: Pilot studies with the Swedish versions of the Mindful Attention Awareness Scale and the Kentucky Inventory of Mindfulness Skills. *Cognitive Behaviour Therapy*, 38, 2-15. doi:10.1080/16506070802383230
- \*\*Hinterman, C., Burns, L., Hopwood, D., & Rogers, W. (2012). Mindfulness: Seeking a more perfect approach to coping with life's challenges. *Mindfulness*, 3, 275–281. doi:10.1007/s12671-012-0091-8

- Ireland, M. J., Day, J. J., & Clough, B. J. (2018). Exploring scale validity and measurement invariance of the Toronto Mindfulness Scale across levels of meditation experience and proficiency. *Journal of Clinical Psychology, 62*, 1445-1467. doi:10.1002/jclp.22709
- Jayawardene, W. P., Lohrmann, D. K., Erbe, R. G., & Torabi, M. R. (2017). Effects of preventive online mindfulness interventions on stress and mindfulness: A meta-analysis of randomized controlled trials. *Preventive Medicine Reports, 5*, 150–159. doi:10.1016/j.pmedr.2016.11.013
- Kabat-Zinn, J. (2012). *Mindfulness for beginners: Reclaiming the present moment and your life*. Boulder, CO: Sounds True.
- Lai, M. H. C., & Yoon, M. (2015). A modified comparative fit index for factorial invariance studies. *Structural Equation Modeling: A Multidisciplinary Journal, 22*, 236-248. doi:10.1080/10705511.2014.935928
- Lau, M. A., Bishop, S. R., Segal, Z. V., Buis, T., Anderson, N. D., Carlson, L., ..., & Devins, G. (2006). The Toronto Mindfulness Scale: Development and validation. *Journal of Clinical Psychology, 62*, 1445-1467. doi:10.1002/jclp.20326
- \*Lothes, J., Hakan, R., & Kassab, K. (2013). Aikido experience and its relation to mindfulness: A two-part study. *Perceptual and Motor Skills, 116*, 30-39. doi:10.2466/22.23.PMS.116.1.30-39
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*, 130–149. doi:10.1037/1082-989X.1.2.130
- Mathur, S., Sharma, M. P., & Bharath, S. (2016). Mindfulness-based cognitive therapy in patients with late-life depression: A case series. *International Journal of Yoga, 9*, 168-72. doi:10.4103/0973-6131.183711
- Medvedev, O. N., Siegert, R. J., Kersten, P., & Krägeloh, C. U. (2016). Rasch analysis of the Kentucky Inventory of Mindfulness Skills. *Mindfulness, 7*, 466–478. doi:10.1007/s12671-015-0475-7
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Journal of Clinical Epidemiology, 62*, 1006–1012. doi:10.1016/j.jclinepi.2009.06.005
- Muthén, B. O., and Muthén, L. K. (1998-2015). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Nicastro, R., Jermann, F., Bondolfi, G., & McQuillan, A. (2010). Assessment of mindfulness with the French version of the Kentucky Inventory of Mindfulness Skills in community and Borderline Personality Disorder samples. *Assessment, 17*, 197-205. doi:10.1177/1073191110363551
- Park, T., Reilly-Spong, M., & Gross, C. R. (2013). Mindfulness: A systematic review of instruments to measure an emergent patient-reported outcome (PRO). *Quality of Life Research, 22*, 2639-2659. doi:10.1007/s11136-013-0395-8
- Perroud, N., Nicastro, R., Jermann, F., & Huguelet, P. (2012). Mindfulness skills in Borderline Personality Disorder patients during dialectical behavior therapy: Preliminary results. *International Journal of Psychiatry in Clinical Practice, 16*, 189–196. doi:10.3109/13651501.2012.674531
- Perry-Parrish, C., Copeland-Linder, N., Webb, L., Shields, A. H., & Sibinga, E. M. (2016). Improving self-regulation in adolescents: Current evidence for the role of mindfulness-based cognitive therapy. *Adolescent Health, Medicine and Therapeutics, 7*, 101-108. doi:10.2147/AHMT.S65820
- \*Renshaw, T. L. (2018). Probing the relative psychometric validity of three measures of psychological inflexibility. *Journal of Contextual Behavioral Science, 7*, 47–54. doi:10.1016/j.jcbs.2017.12.001
- Ruiz, F. (2014). The relationship between low levels of mindfulness skills and pathological worry: The mediating role of psychological inflexibility. *Anales De Psicología, 30*, 887-897. doi:10.6018/analesps.30.3.150651
- Schmidt, S. (2011). Mindfulness in East and the West: Is It the Same? In Walach, H., Schmidt, S., & Jonas, W.B. (2011). *Neuroscience, Consciousness & Spirituality*. (Vol.1) Springer: Dordrecht. doi: 10.1007/978-94-007-2079-4.
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research, 8*, 23-74. Retrieved from <https://www.dgps.de/fachgruppen/methoden/mpr-online/>
- Siegling, A.V., & Petrides, K. V. (2014). Measures of trait mindfulness: Convergent validity, shared dimensionality, and linkages to the Five Factor Model. *Frontiers in Psychology, 5*, 1-8. doi:10.3389/fpsyg.2014.01164
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*, 173–180. doi:10.1207/s15327906mbr2502\_4
- Ströhle, G., Nachtigall, C., Michalak, J., & Heidenreich, T. (2010). Die Erfassung von Achtsamkeit als mehrdimensionales Konstrukt: Die deutsche Version des Kentucky Inventory of Mindfulness Skills (KIMS-D) [The assessment of mindfulness as a multifacet construct: The German version of the Kentucky Inventory of

- Mindfulness Skills (KIMS)]. *Zeitschrift für Klinische Psychologie und Psychotherapie*, 39, 1–12. doi:10.1026/1616-3443/a000001
- Trousselard, M., Steiler, D., Claverie, D., Canini, F. (2014). The history of mindfulness put to the test of current scientific data: Unresolved questions. *Encephale-Revue de Psychiatrie Clinique Biologique et Therapeutique*, 40, 474-480.
- Trousselard, M., Steiler, D., Claverie, D., & Canini, F. (2014). The history of mindfulness put to the test of current scientific data: Unresolved questions. *Encephale-Revue de Psychiatrie Clinique Biologique et Therapeutique*, 40, 474-480. doi:10.1016/j.encep.2014.08.006
- van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, 9, 486-492. doi:10.1080/17405629.2012.686740
- Xu, X., Wu, D., Zhao, X., Chen, J., Xia, J., Li, M., ..., & Zhong, X. (2016). Relation of perceptions of educational environment with mindfulness among Chinese medical students: A longitudinal study. *Medical Education Online*, 21, 30664-6. doi:10.3402/meo.v21.30664

---

Note. “\*\*” denotes the studies with data sets we used in our factor analysis ( $n = 3$ ). “\*\*\*” denotes the studies whose data we received, but did not use ( $n = 3$ ). We graciously acknowledge and thank these researchers for allowing us access to their datasets.

# Choosing Entrepreneurship: Cross-Cultural Insights into Experiences of Young Entrepreneurs

Laurent Sovet<sup>1</sup>, Chiara Annovazzi<sup>2</sup>, Thuy Anh Ngo<sup>3</sup>, & Namita Ruparel<sup>4</sup>

## Abstract

Entrepreneurship education has grown rapidly within the academic settings across the globe. Many higher education institutions are offering programmes or trainings devoted to awareness of entrepreneurship, acquisition of critical entrepreneurial competences or business creation. While entrepreneurial studies are prolific on the implementation and the effectiveness of entrepreneurship education programmes, few have examined college students' participation through the lens of a meaning-making experience. The purpose of our study is to examine how college students enrolled in an entrepreneurship education programme perceive their experience and how such lived experience makes sense in their own life stories using a phenomenological approach. Between 16 and 40 participants from four different countries (France, India, Italy, and Singapore) will be interviewed. The rationale and the research method are described in detail in the present registered report. Implications for practices and research are also discussed.

**Keywords:** Entrepreneurship education, phenomenology, college students, cross-cultural research.

## Introduction

Most countries are dramatically affected to a large extent by the effects of globalization and economic crises. Reducing unemployment and promoting decent work have become two critical priorities to foster inclusive and sustainable growth for both economic and human development worldwide (European Commission, 2011; International Labour Organization, 2018). In order to achieve these goals, numerous national and international organizations have promoted entrepreneurship education and encouraged job creation and self-employment as strategic levers (International Labour Organization, 2014; European Commission, 2013; Organisation for Economic Co-operation and Development, 2015; United Nations, 2018). This context may explain the growing interests in exploring the determinants of entrepreneurial intentions as well as the effectiveness of entrepreneurship education (Atitsogbe, Mama, Sovet, Pari, & Rossier, 2019; Bae, Qian, Miao, & Fiet, 2014; Volkmann & Audretsch, 2017; Weber, 2012). Overall, entrepreneurship education aims to foster “the development of entrepreneurial knowledge, skills, and attitudes that enable students to think and act entrepreneurial to potentially realize those opportunities” (Volkmann & Audretsch, 2017, p. 1). From an individual perspective, entrepreneurship education can be viewed as an active learning process in which “entrepreneurial learning, knowing, acting and making sense are interconnected” (Rae, 2000, p. 51). In other words, such learning experience may shape identity construction and stimulate reflection about the meaning of work and the meaning of entrepreneurship (Cope, 2011; Donnellon, Ollila, & Middleton, 2014). The present study aims to examine the subjective experience of college students enrolled in an entrepreneurship education programme from four different countries (France, India, Italia, and Singapore) using a phenomenological approach.

## Entrepreneurship Education in Higher Education Institutions

During the last decades, entrepreneurship education programmes have grown rapidly within the academic settings worldwide (Kuratko, 2005; Peris-Ortiz, Gomez, Merigo-Lindahl, & Rueda-Armengot, 2017). As noted by Kuratko (2005), “it is becoming clear that entrepreneurship, or certain facets of it, can be taught” (p. 580). Subsequently, many researchers have begun to explore practices and evaluate their impacts on both individual and economic level. For instance, the effectiveness of entrepreneurship education on entrepreneurial intentions, development of

---

<sup>1</sup> Laboratory of Applied Psychology and Ergonomics, Paris Descartes University, Boulogne-Billancourt, France. Correspondence concerning this article should be addressed to Laurent Sovet, Laboratory of Applied Psychology and Ergonomics, Paris Descartes University, 71 avenue Édouard Vaillant, 92100 Boulogne-Billancourt, France. E-mail: laurent.sovet@parisdescartes.fr

<sup>2</sup> University of Milano-Bicocca, Milan, Italy.

<sup>3</sup> Nanyang Technological University, Singapore, Singapore.

<sup>4</sup> Birla Institute of Technology & Science, Pilani, India.

a new venture, and successful entrepreneurship has been well-documented (Bae et al., 2014; Martin, McNally, & Kay, 2013; Rideout & Gray, 2013). Such outcomes can be also determined by various individual, cultural, and societal antecedents (Ozaralli & Rivenburgh, 2016). Nevertheless, the goal for all the college students who participate to an entrepreneurship education programme is not necessarily to become an entrepreneur, at least not in the short term (Fayolle, Gailly, Lassas-Clerc, 2006). Indeed, for some of them, it can be a way to acquire entrepreneurial knowledge, skills, and attitudes that could be transferable in other work activities and everyday life and boost their employability (Marques & Albuquerque, 2012). Considering this aspect, it seems important to explore how student entrepreneurs perceive and reflect about their experience in entrepreneurship education.

Entrepreneurship education programmes appear to be heterogeneous in nature with difficulties to develop a standardized curriculum at a national and an international level. Such differences can be explained by the fact that entrepreneurship education relies on connections between college students, educators, community, and institution in a specific cultural environment (Jones & Matlay, 2011; Lee, Lim, Pathak, Chang, & Li, 2007). Differentiation in terms of pedagogical approaches have been reported with reflective and active modes (Walter & Dohse, 2012). The first one is more knowledge-oriented where the college students reflect upon new information by participating to lectures or debates. The second one is more action-oriented where the college students engage actively through experimentation by joining diverse activities such as management simulation or live projects. Learning-by-doing activities and problem-based learning appear to be more effective on action-regulatory factors and facilitate better the acquisition of entrepreneurial competences (Chang & Rieple, 2013; Gielnik et al., 2012; Hamburg, 2015; Rasmussen & Sorheim, 2006; Walter & Dohse, 2012).

### **Cross-Cultural Perspectives on Entrepreneurship Education**

Entrepreneurship education programs can take various forms with differences and similitudes at both national and international level (Organization for Economic Co-operation and Development, 2015; Pittaway & Cope, 2007; Volkmann & Audretsch, 2017). Thus, it seems necessary to provide an overview of the contexts of each country involved in the present cross-cultural study in terms of entrepreneurship education (Lee et al., 2007).

#### **France**

The first programs dedicated to entrepreneurship education and available in higher education institutions appears in the late 1970s. According to a national survey conducted in 1998, about 48% of higher education institutions offered at least one entrepreneurship education program while 22% planned to open one within the next three years (Fayolle, 1999). Notable differences regarding the type of higher education institutions in which business schools were 71% to report at least one entrepreneurship education program for only 37% of universities. Since the beginning of the 2000s, numerous and various initiatives supported by the French Government has been implemented at local, regional, and national levels with a distinction between programs focused on awareness of entrepreneurship and programs focused on entrepreneurship specialization (Boissin & Schieb-Bienfait, 2011; Léger-Jarniou, 2012). Such initiatives aimed not only to increase college students' awareness of entrepreneurship but also to support the development of their entrepreneurial projects. In 2013, the French Ministry of Education launched a national program called "*Statut National d'Étudiant-Entrepreneur*" (National Status of Student-Entrepreneur) to support all college students with interests for entrepreneurship by providing structured trainings, financial support, and guidance in the design and the implementation of their entrepreneurial projects. In 2016-2017, about 2,689 college students joined this program while more than 10,000 college students were enrolled in a degree in business management and entrepreneurship, more than 70,000 college students received an introduction to entrepreneurship and more than 35,000 college students followed a program focused on entrepreneurship specialization (Meige, Gillard, & Perrey, 2019).

#### **India**

Entrepreneurship was promoted and nurtured in India during the time of Liberalization in during the 1990s (Basu, 2014). Among the developing countries, India has had a relatively early start on introducing entrepreneurial education (Rehman & Elahi, 2012). A plethora of colleges in India have various structures of curricula extending entrepreneurial education and a number of institutions provide funding as investments in start-ups while providing a degree in entrepreneurial education. Some of the curricula are activity based, some are designed mainly to prepare managers to respond to the challenges of swiftly changing business milieus. National Institute of Industrial Engineering (NITIE) one of the first colleges in India to start entrepreneur education. NCSE's (National Centre for Student Enterprises) main drive is to help budding entrepreneurs to open their firm and encourage them to think of the future of entrepreneurship. A number of business schools offer a number of programmes, for example, the NS Raghavan Centre for Entrepreneurial Learning, a part of IIM Bangalore (NSRCEL—IIMB) holds international collaboration projects. In the case of IIM Calcutta, events on innovation and entrepreneurship are driven by students, with supervision of faculty advisors. Many ideas revolve around solving the problems of poverty in rural areas, since "innovation is getting compassionate, too." Among top business schools, it has been a trend to drop out of placements

and start entrepreneurial ventures. Recent studies in the case of India and entrepreneurial education demonstrate that positive emotions about start-up do not influence entrepreneurial intention, entrepreneurial courses help students build entrepreneurial networks, and however, it has no impact on their perceived success of entrepreneurship. Role models also had no influence on entrepreneurial intention in India. Indian students were found to be more self-reliant and independent of their network to establish their ventures (Seth, Clear, Khan, & Ananthan, 2018).

### **Italy**

Since the 2000s, various programs dedicated to boost entrepreneurial competences have been implemented. Initially, the objective was to increase competences in three dimensions: Computer Science, English, and Entrepreneurship. In order to promote entrepreneurial spirit, more and more Italian universities have proposed entrepreneurship education based on lectures, courses, and action-oriented trainings (Piva, 2017). As an illustration, the University of Milan Bicocca has launched several initiatives to enhance transversal and entrepreneurial competences through the label I-Bicocca. This project aims to stimulate collaboration among college students, faculty members, and entrepreneurs by promoting an entrepreneurial approach of knowledge transfer. Events are often organized to allow and encourage dialogues between representatives of the world of work, influential personalities, and start-up founders in order to discuss about the upcoming challenges in the knowledge-based society. In the same vein, the University of Milan Bicocca proposed a live project called "Hackathon For Ophthalmology" (H4O) in 2018. Based on an innovative approach, H4O is a participatory action research that combines human-centred service design, interdisciplinary connections, and technological and sustainable challenges. The expected outcomes are to find viable solutions to real-world problems and to foster the development of college students' entrepreneurial competences through their engagement in a large and mixed community. H4O includes a 3-step process based on awareness, activation, and participation (Camussi, Sassi, Zulato, Annovazzi, & Ginevra, *in press*).

### **Singapore**

In Singapore, entrepreneurship education is delivered via academic courses, incubation centres, and student organizations (Bhasin, 2007; Trivedi, 2014). First, all four major universities in Singapore, which enrolled approximately 93% of all university students, offer undergraduates entrepreneurship major, minor, or electives in their entrepreneurship academic divisions. Their entrepreneurship curricula often comprise modules such as entrepreneurial marketing, entrepreneurial finance, technological innovation, new product development, and enterprise strategies, and/or internship with a start-up company. Second, these universities also offer incubation initiatives, from organizing various seminars, workshops, and competitions, to providing co-working spaces, consultations, and mentorship to prospective entrepreneurs. Finally, interested students can take part in student-led entrepreneurship clubs to build their networks and support one another in developing various entrepreneurship skills. Taken together, the landscape of entrepreneurship education in Singapore is vibrant and full of opportunities for interested students (Sidhu, Ho, & Yeoh, 2011; Wong, Ho, & Singh, 2007).

To summarize, it appears that entrepreneurship education in higher education institutions is particularly rending across the four countries. Indeed, we found that action-oriented entrepreneurship education is progressively promoted while collaborations with various start-ups, public institutions, and representatives of the labour world are rising. Such practices are clearly influenced and shaped by the cultural values and the socioeconomic ecosystem in which they are implemented. In contrast, some countries, and especially France and Italy, driven by the policy of the European Union, are encouraging entrepreneurship education not only to stimulate business venture creations but also to foster the development of entrepreneurial spirit and transversal skills. Since the motives to enrol in an entrepreneurship education programme may be different, it may subsequently influence how college students perceive and interpret their lived experiences.

## **Phenomenological Study of Entrepreneurship**

There are still debates about the methodological framework for conducting a phenomenological study (Bevan, 2014; Guerrero-Castañeda, Menezes, & Ojeda-Vargas, 2017; Wimpenny & Gass, 2000). Adopting a constructivist paradigm, it aims to explore the meaning of human experiences in specific situations. According to Wimpenny and Gass (2000), “within the phenomenological tradition, it would appear that this meaning must be a result of co-creation between the researcher and the researched and not just the interpretation of the researcher, who may have different contextual factors or agendas influencing the descriptions” (p. 1487). It is generally recommended to use semi-structured or in-depth interviews in order to elicit meanings rather than inducing them. During the last decades, phenomenological approach has been more frequently used in studies of entrepreneurship (Raco & Tanod, 2014; Steyaert, 2007). Such studies are particularly relevant to understand the lived experiences of entrepreneurs at different stages of their business development.

More particularly, several authors examined successes and failures of business ventures (Cope, 2011; Schorr, 2008), transitions to entrepreneurship with or without an exceptional background (Atkins, 2013; Baum, 2015; Lyons, 2014), motives for engaging in a specific sector (Ainley, 2014), or lived experiences of female entrepreneurs (Reaves, 2008; Rehman & Roomi, 2012; Sharif, 2015). Usually, such studies were based on small sample sizes and include participants with a unique and relatively homogeneous profile. Nevertheless, there is a paucity of research on the lived experience of college students who are enrolled in an immersive entrepreneurship education programme. Recently, Marchand and Sood (2014) conducted in-depth interviews of seven young entrepreneurs in Australia focusing on their lived experience. They aimed to elicit cognitive skills and motives acquired during entrepreneurial learning process, and to identify the main archetypal profiles of young entrepreneurs. We would like to extend the current literature by exploring the lived experience of young entrepreneurs from different cultural settings as a meaning-making experience.

### **Aims and Hypotheses**

The purpose of the present study is to examine how college students enrolled in an entrepreneurship education programmes perceive their experience and how such lived experience transpire in their own life stories using a phenomenological approach. As an interactive process influenced by individual, institutional and cultural characteristics (Donnellon et al., 2014; Lee et al., 2006; Volkmann & Audretsch, 2017), we have decided to explore this phenomenon among college students from France, India, Italy, and Singapore and to examine the similarities and differences in the results across countries. While the initial choice was guided by a convenience sampling, these four countries present interesting differences and similarities as in terms of entrepreneurship education practices, cultural values, and social representations of entrepreneurs.

### **Method**

#### **Participants**

Ensuring the comparability of the samples is critical for a cross-cultural research (van de Vijver & Tanzer, 2004). In addition, since we want to follow a phenomenology research design, Creswell (1998) recommended a sample size ranging from five to 25 participants. Finally, regarding the diversity and pedagogy of entrepreneurship education programs provided in higher education institutions (Pittaway & Cope, 2007), it seems important to target some entrepreneurship education programs with similar characteristics. Therefore, all the members of our research team discussed and agreed on strict inclusion and exclusion criteria.

For each country, the sample will consist of six to ten college students currently enrolled in a local or national team-based or project-oriented entrepreneurship education program for less than one year. We will preferably recruit college students who are following the same entrepreneurship education program within the same institution in order to maximize the intragroup homogeneity. All the participants will be aged between 18 and 30 years old with a roughly equal number of men and women. Respondents must be native speakers in the language used during the interviews (i.e. English in India and Singapore, French in France, and Italian in Italy) and must have received all their primary and secondary education in the country where the interviews take place. There is no restriction regarding the topics of entrepreneurial projects.

#### **Design**

Following a phenomenological approach, we plan to use a lightly semi-structured interview method. Three themes will be explored: (1) life story, (2) meanings of work and entrepreneurship, and (3) entrepreneurial experiences through participation in an immersive entrepreneurship education program. The first theme will focus on personal narratives by asking students about significant events in their life and events that sparked interest in joining an entrepreneurship education program. The second theme will examine how participants perceive work and entrepreneurship and which personal experiences share the elicited meanings. The last theme will explore lived experience as a young entrepreneur and its particular significance in participant’s personal and career trajectory.

In addition, college students will respond to demographic questions and provide a record of their educational background and entrepreneurial activities. Each interview will last for approximately one hour.

### **Procedure**

All the research protocol will be submitted to the institutional review board of Paris Descartes University (France) in order to receive ethics approval for conducting the present study across the four countries. Meanwhile, a dedicated procedure will be elaborated for data acquisition, storage, and management in order to meet the legal requirements defined by the General Data Protection Regulation (2018). Our strategy to recruit participants will consist of contacting college and university services in charge of entrepreneurship education. The first interview conducted in each country will be used as a pilot study. More specifically, a small interview session will be organized with all the team members in order to discuss the relevance of the interview guide and how to improve the cross-cultural comparability of the investigative process and techniques used by each interviewer. Depending on the outcomes of this meeting, all the working documents could be adjusted and re-submitted to the same institutional review board for a new approval. A standardized procedure will be followed across the four countries. Each participant will have to sign a consent form prior to the start of data collection. The interviews will be tape-recorded and complemented with field notes. Then, they will be entirely transcribed verbatim using secretarial transcription. For each interview, a rigorous process of data anonymization will be applied for privacy protection.

### **Strategies for data analysis**

Cross-language qualitative research requires particularly attention. Previous authors have suggested that using translations in phenomenological study may cause a loss of significance and question the credibility of the results (van Nes, Abma, Jonsson, & Deeg, 2010; Twinn, 2008). As noted by Squires (2009), “phenomenological studies require an intense, exact focus on how participants use language to describe their experiences and language is a part of the identity of the person experiencing the phenomenon, translation disrupts the fluid process from inception through dissemination of studying the participants’ use of language to describe the experience of the phenomenon” (p. 279). Consequently, we have decided to analyse all the transcriptions in the original transcriptions instead of using translated materials in a common language. In order to increase the cross-cultural validity of the process, our research team will be composed of at least two researchers from each country. Interpretative phenomenological analysis (IPA) will be conducted (Smith, Jarman, & Osborn, 1999). This qualitative approach is particularly suitable for small samples and for the collected data. Overall, IPA aims “to explore in detail how participants are making sense of their personal and social world, and the main currency for an IPA study is the meanings particular experiences, events, states hold for participants” (Smith & Osborn, 2008, p. 53). Adopting an idiographic perspective, it consists of examining in detail one case at first in order to generate the units of meaning and organize them in clusters and then to extend the identified themes to the other cases. The identification of the core themes is the outcomes of both participants’ discourse and researcher’s active interpretative process. The results are generally divided into different subsections in which each theme is presented in detail followed by theoretical analysis and interpretation (e.g. Cope, 2011).

### **Discussion**

The present study will bring new insights into the subjective experience of college students who are enrolled in an immersive entrepreneurship education programme. Specifically, we expect to find some clues about how the process of entrepreneurial learning is perceived and interpreted and how participants derive meanings through their lived experience. We suppose that for some college students, such experience could lead to confirmation or rejection of the plan to pursue a career as an entrepreneur, while for others, it may highlight that the entrepreneurial competences acquired along the process can be useful for their future career and everyday life. In addition, as a potentially meaningful experience, it could help to establish a stable identity and contribute to an effective life designing (Savickas et al., 2008). Since we assume that entrepreneurial learning is an interactive process influenced by individual, institutional, and cultural characteristics, we expect to find some cross-cultural differences in terms of significance of the lived experience.

At least, two major limitations must be mentioned. First, we must guarantee a high comparability of the samples across the four countries. Since the study will rely on small samples, we must carefully select our participants following the strict inclusion and exclusion criteria we defined. In addition, conducting a cross-cultural phenomenological study is challenging since such approach requires to deeply understanding lived experience with a special interest on the language used by participants to describe it (Squire, 2009).

*Acknowledgement.* The present study has been realized with the support of the International Association of Applied Psychology (IAAP). We thank also all the organizers of the Advanced Research Training Seminars (ARTS) for their valuable feedbacks.

*Conflict of Interest Statement.* The authors declare that the research has been conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## References

- Ainley, S. (2014). A phenomenological study of agritourism entrepreneurship on Ontario family farms. *Tourism Planning & Development*, 11(3), 317–329. doi:10.1080/21568316.2014.890128
- Atitsogbe, K. A., Mama, N. P., Sovet, L., Pari, P., & Rossier, J. (2019). Perceived employability and entrepreneurial intentions across university students and job seekers in Togo: The effect of career adaptability and self-efficacy. *Frontiers in Psychology*. doi:10.3389/fpsyg.2019.00180
- Atkins, S. (2013). A study into the lived experiences of deaf entrepreneurs: Considerations for the professional. *Journal of the American Deafness & Rehabilitation Association*, 47(2), 222–236.
- Bae, T. J., Qian, S., Mio, C., & Fiet, J. O. (2014). The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review. *Entrepreneurship Theory and Practice*, 38(2), 217–254. doi:10.1111/etap.12095
- Basu, R. (2014). Entrepreneurship education in India: A critical assessment and a proposed framework. *Technology Innovation Management Review*, 4(8), 5–10.
- Baum, C. G. (2015). *The mind of the entrepreneur: Exploring lived experiences*. Unpublished doctoral dissertation, University of Saskatchewan, Saskatoon, Canada.
- Bevan, M. T. (2014). A method of phenomenological interviewing. *Qualitative Health Research*, 24(1), 136–144. doi:10.1177/1049732313519710
- Bhasin, B. B. (2007). Fostering entrepreneurship: Developing a risk-taking culture in Singapore. *New England Journal of Entrepreneurship*, 10(2), 39–50. doi:10.1108/nej-10-02-2007-b004
- Boissin, J.-P., & Schieb-Bienfait, N. (2011). Des Maisons de l'Entrepreneuriat au plan d'action national des Pôles Entrepreneuriat Étudiants [From Entrepreneurial Centres to the national action plan on Student Entrepreneurship Centres]. *Entreprendre & Innover*, 3-4(11-12), 55–64. doi:10.3917/entin.011.0055
- Camussi, E., Sassi, C., Zulato, E., Annovazzi, C., & Ginevra, M. (in press). Hacking women's health: A new methodology. *Journal of Prevention & Intervention in the Community*.
- Chang, J., & Rieple, A. (2013). Assessing students' entrepreneurial skills development in live projects. *Journal of Small Business and Enterprise Development*, 20(1), 225–241. doi:10.1108/14626001311298501
- Cope, J. (2011). Entrepreneurial learning from failure: An interpretative phenomenological analysis. *Journal of Business Venturing*, 26(6), 604–623. doi:10.1016/j.jbusvent.2010.06.002
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publications.
- Donnellon, A., Ollila, S., Middleton, K. W. (2014). Constructing entrepreneurial identity in entrepreneurship education. *The International Journal of Management Education*, 12(3), 490–499. doi:10.1016/j.ijme.2014.05.004
- European Commission (2011). *Increasing the impact of EU development policy: An agenda for change*. Brussels, Belgium: European Commission.
- European Commission (2013). *Entrepreneurship 2020 action plan: Reigniting the entrepreneurial spirit in Europe*. Brussels, Belgium: European Commission.
- Fayolle, A. (1999). *L'enseignement de l'entrepreneuriat dans les universités françaises : Analyse de l'existant et propositions pour en faciliter le développement* [Entrepreneurship education in the French universities: Analysis of the current situation and recommendations to facilitate its development]. Paris, France : Ministère de l'Éducation Nationale, de la Recherche et de la Technologie.
- Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: A new methodology. *Journal of European Industrial Training*, 30(9), 701–720. doi:10.1108/03090590610715022
- Gielnik, M. M., Frese, M., Kahara-Kawuki, A., Wasswa Katono, I., Kyejjusa, S., ... Dlugosch, T. J. (2015). Action and action-regulation in entrepreneurship: Evaluating a student training for promoting entrepreneurship. *Academy of Management Learning & Education*, 14(1), 69–94. doi:10.5465/amle.2012.0107

- Guerrero-Castañeda, R. F., Menezes, T. M. O., & Ojeda-Vargas, M. G. (2017). Characteristics of the phenomenological interview in nursing research. *Revista Gaúcha de Enfermagem*, 38(2), 1–5. doi:10.1590/1983-1447.2017.02.67458
- Hamburg, I. (2015). Learning approaches for entrepreneurship education. *Archives Research Journal*, 3(1), 228–237. doi:10.14738/assrj.31.910
- International Labour Organization (2014). *Fostering future entrepreneurs*. Geneva, Switzerland: ILO.
- International Labour Organization (2018). *Decent work and the sustainable development goals: A guidebook on SDG labour market indicators*. Geneva, Switzerland: ILO.
- Jones, C., & Matlay, H. (2011). Understanding the heterogeneity of entrepreneurship education: Going beyond Gartner. *Education + Training*, 53(8-9), 692–703. doi:10.1108/00400911111185026
- Kuratko, D. F. (2005). The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship: Theory and Practice*, 29(5), 577–598. doi:10.1111/j.1540-6520.2005.00099.x
- Lee, S. M., Lim, S.-B., Pathak, R. D., Chang, D., & Li, W. (2006). Influences on students attitudes toward entrepreneurship: A multi-country study. *The International Entrepreneurship and Management Journal*, 2(3), 351–366. doi:10.1007.s11365-006-0003-2
- Léger-Jarniou, C. (2012). Student Entrepreneurship Clusters: A new way for entrepreneurship education? *Industry and Higher Education*, 26(3), 177–191. doi:10.5367/ihe.2012.0093
- Lyons, J. A. (2014). *Veteran entrepreneurship: A phenomenological study of the lived experience of veterans' transition from military service to entrepreneurship*. Unpublished doctoral dissertation, Capella University, Minneapolis, MN.
- Marchand, J., & Sood, S. (2014). The alchemy of student entrepreneurs: Towards a model of entrepreneurial maturity. *International Journal of Entrepreneurship and Innovation Management*, 18(1), 75–92. doi:10.1504/ijeim.2014.062791
- Marques, L. A., & Albuquerque, C. (2012). Entrepreneurship education and the development of young people life competencies and skills. *ACRN Journal of Entrepreneurship Perspectives*, 1(2), 55–68.
- Martin, B., McNally, J., & Kay, M. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28(2), 211–224. doi:10.1016/j.jbusvent.2012.03.002
- Meige, A., Gillard, C., & Perry, P. (2019). *La formation de l'esprit entrepreneur* [The development of the entrepreneur spirit]. Paris, France : Ministère de l'Éducation Nationale et de la Jeunesse.
- Organisation for Economic Co-operation and Development (2015). *Entrepreneurship in education: What, why, when, how*. Paris, France: OECD.
- Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: Antecedents to entrepreneurial behaviour in the U.S.A. and Turkey. *Journal of Global Entrepreneurship Research*, 6(3), 1–32. doi:10.1186/s40497-016-0047-x
- Peris-Ortiz, M., Gomez, J. A., Merigo-Lindahl, J. M., & Rueda-Armengot, C. (Eds.) (2017). *Entrepreneurial universities: Exploring the academic and innovative dimensions of entrepreneurship in higher education*. Cham, Switzerland: Springer.
- Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International Small Business Journal*, 25(5), 479–510. doi:10.1177/0266242607080656
- Piva, E. (2017). Milan Polytechnic University: Experience-oriented entrepreneurship education. In C. K. Volkman & D. B. Audretsch (Eds.), *Entrepreneurship education at universities: Learning from twenty European cases* (pp. 353–377). Cham, Switzerland: Springer.
- Raco, J. R., & Tanod, R. H. M. (2014). The phenomenological method in entrepreneurship. *International Journal of Entrepreneurship and Small Business*, 22(3), 276–285. doi:10.1504/ijseb.2014.063776
- Rae, D. (2000). Understanding entrepreneurial learning: A question of how? *International Journal of Entrepreneurial Behavior & Research*, 6(3), 145–159. doi:10.1108/13552550010346497
- Rasmussem, E. A., & Sorheim, R. (2006). Action-based entrepreneurship education. *Technovation*, 26(2), 185–194. doi:10.1016/j.technovation.2005.06.012
- Reaves, B. B. (2008). *Entrepreneurial success: A phenomenological study of characteristics of successful female entrepreneurs*. Unpublished doctoral dissertation, University of Phoenix, Phoenix, AZ.
- Rehman, A., & Elahi, Y. A. (2012). Entrepreneurship education in India: Scope, challenges and role of B-schools in promoting entrepreneurship education. *International Journal of Engineering and Management Research*, 2(5), 5–14.

- Rehman, S., & Roomi, M. A. (2012). Gender and work-life balance: A phenomenological study of women entrepreneurs in Pakistan. *Journal of Small Business and Enterprise Development*, 19(2), 209–228. doi:10.1108/14626001211223865
- Rideout, E. C., & Gray, D. O. (2013). Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education. *Journal of Small Business Management*, 51(3), 329–351. doi:10.1111/jsbm.12021
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J.-P., Duarte, M. E., Guichard, J., ... van Vianen, A. E. M. (2009). Life designing: a paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, 75(3), 239–250. doi:10.1016/j.jvb.2009.04.004
- Schorr, F. (2008). *Becoming a successful entrepreneur: A phenomenological study*. Unpublished doctoral dissertation, Alliant International University, San Francisco, CA.
- Seth, K. P., Clear, F., Khan, T., & Ananthan, S. S. (2018). The role of entrepreneurship education and its characteristics in influencing the entrepreneurial intention: A study based on India and the UK. In J. J. Ferreira, A. Fayolle, V. Ratten & M. Raposo (Eds.), *Entrepreneurial universities: Collaboration, education and policies* (pp. 207–225). Cheltenham, UK: Edward Elgar Publishing.
- Sharif, M. Y. (2015). Glass ceiling, the prime drive of women entrepreneurship in Malaysia: A phenomenological study of women lawyers. *Procedia – Social and Behavioral Sciences*, 169(20), 329–336. doi:10.1016/j.sbspro.2015.01.317
- Sidhu, R., Ho, K.-C., & Yeoh, B. (2011). Emerging education hubs: The case of Singapore. *Higher Education*, 61(1), 23–40. doi:10.1007/s10734-010-9323-9
- Smith, J. A., Jarman, M., & Osborn, M. (1999). Doing interpretative phenomenological analysis. In M. Murray, & K. Chamberlain (Eds.), *Qualitative health psychology: Theories and methods* (pp. 218–241). London, UK: Sage Publications.
- Smith, J. A., Osborn, M. (2008). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 53–80). London, UK: Sage Publications.
- Squires, A. (2009). Methodological challenges in cross-language qualitative research: A research review. *International Journal of Nursing Studies* 46(2), 277–287. doi:10.1016/j.ijnurstu.2008.08.006
- Steyaert, C. (2007). “Entrepreneuring” as a conceptual attractor? A review of process theories in 20 years of entrepreneurship studies. *Entrepreneurship & Regional Development: An International Journal*, 19(6), 453–477. doi:10.1080/08985620701671759
- Trivedi, R. H. (2014). Are we committed to teach entrepreneurship in business school? An empirical analysis of lectures in India, Singapore and Malaysia. *Journal of Entreprising Communities: People and Places in the Global Economy*, 8(1), 71–81. doi:10.1108/jec-08-2013-0026
- Twinn, S. (1997). An exploratory study examining the influence of translation on the validity and reliability of qualitative data in nursing research. *Journal of Advanced Nursing*, 26(2), 418–423. doi:10.1046/j.1365-2648.1997.1997026418.x
- United Nations (2018). *World youth report: Youth and the 2030 agenda for sustainable development*. New York, NY: United Nations.
- van de Vijver, F. J. R., & Tanzer, N. K. (2004). Bias and equivalence in cross-cultural assessment: An overview. *European Review of Applied Psychology*, 54(2), 119–134. doi:10.1016/j.erap.2003.12.004
- van Nes, F., Abma, T., Jonsson, H., & Deeg, D. (2010). Language differences in qualitative research: Is meaning lost in translation? *European Journal of Ageing*, 7(4), 313–316. doi:10.1007/s10433-010-0168-y
- Volkman, C. K., & Audretsch, D. B. (2017). Introduction: The mandate for entrepreneurship education. In C. K. Volkman & D. B. Audretsch (Eds.), *Entrepreneurship education at universities: Learning from twenty European cases* (pp. 1–10). Cham, Switzerland: Springer.
- Walter, S. G., & Dohse, D. (2012). Why mode and regional context matter for entrepreneurship education. *Entrepreneurship & Regional Development: An International Journal*, 24(9-10), 807–835. doi:10.1080/08985626.2012.721009
- Weber, R. (Ed.) (2012). *Evaluating entrepreneurship education*. Cham, Switzerland: Springer.
- Wimpenny, P., & Gass, J. (2000). Interviewing in phenomenology and grounded theory: Is there a difference? *Journal of Advanced Nursing*, 31(6), 1485–1492. doi:10.1046/j.1365-2648.2000.01431.x
- Wong, P.-K., Ho, Y.-P., & Singh, A. (2007). Towards an “entrepreneurial university” model to support knowledge-based economic development: The case of the National University of Singapore. *World Development*, 35(6), 941–958. doi:10.1016/j.worlddev.2006.05.007

## Development, Test and Validation of the Triangle Scale of Chronic Job Insecurity (TSC-JI)

Morteza Charkhabi<sup>1</sup>, Laura Seidel<sup>2</sup>, Clément Belletier<sup>3</sup>, & Fatemeh Sajjadi<sup>4</sup>

### Abstract

Over the past three decades, various scales have been developed to measure job insecurity, however these scales all suffer from limitations. First, they focus on job insecurity as a situational stressor and they ignore its subsequent stress and strains. Second, they only considered a negative conceptualization of job insecurity and neglected the variety of ways job insecurity can be appraised by different individuals (e.g., challenge, threat, and hindrance). Third, they ignored the time framework of job insecurity and its influence on individuals. This research aims to develop a scale to measure the multi-faceted components of two types of chronic quantitative job insecurity and chronic qualitative job insecurity separately. Following Lazarus and Folkman's model of stress (1984), we defined a new paradigm to track job insecurity along with its short and long-term outcomes along a dynamic path. A second aim is to monitor job insecurity when it is perceived as a chronic stressor, when its primary perception will lead to chronic stress, and when its continuation will result in chronic strains. For development of this scale, first items of each component are generated, then external judges select most relevant items and in the end, the final items will be validated. The final version of this scale will be used to collect data from an English speaking country along with extra scales to check its divergent and convergent validity. This scale will be an experimental-diagnostic instrument able to assess the extent to which an employee might be influenced by chronic job insecurity.

**Keywords:** Chronic quantitative job insecurity, chronic qualitative job insecurity, Triangle Scale

### Theoretical background

Job insecurity has been recognized as a detrimental stressor in the workplace (e.g., McDonough, 2000; Probst, 2008; De Witte, Vander Elst, & De Cuyper, 2015). Classically, job insecurity is divided into quantitative and qualitative job insecurity (Vander Elst, De Cuyper & De Witte, 2010; Hellgren, Sverke, & Isaksson, 1999). Quantitative job insecurity is the overall concern of employees in regards to the continuous existence of their job in the future (Vander Elst, De Cuyper & De Witte, 2010), while qualitative job insecurity refers to the possibility of future unfavourable changes within job characteristics (i.e. salary reduction and more job demands) (De Witte, 2005; Hellgren, Sverke, & Isaksson, 1999). Within both types of job insecurity, the key characteristic is uncertainty (Sverke, Hellgren, & Näswall 2002), which separates job insecurity as a whole from job loss, adding unique detriments to employees (Shoss, Jiang & Probst, 2016). Studies show that both types of job insecurity lead to negative outcomes such as reduced job satisfaction and wellbeing, higher rates of turnover intentions (Hellgren, Sverke, & Isaksson, 1999; De Witte, De Cuyper, Handaja, Sverke, Näswall, & Hellgren, 2010) in addition to instilling feelings of personal threat, burnout and decreased work engagement (Shoss, Jiang & Probst, 2016).

The majority of existing scales are based on measuring the two types of job insecurity as stressors while they ignore the extent to which job insecurity may lead to mental stresses or physiological strains. Stressors can be defined as facets of an environment that harmfully affect health, while strains can be considered as an individual's response to such stressors (Viswesvaran, Sanchez & Fisher, 1999). Nonetheless, the strain resulting from a given stressor will depend greatly on the evaluation of the situational demand made by the individual. In other words, the strain triggered by a stressor will depend on a subjective comparison between the situational demands and the individual's perceived ability to cope.

This issue is addressed by the challenge and threat theory (for review, Blascovich & Mendes, 2013) which postulates that a process of cognitive appraisals takes place in an active performance situation (a situation with an identified goal, an evaluation, and in which cognitive, emotional or behavioral responses are required). This process consists in the conscious or unconscious evaluation of environmental demands and individual resources. If individual resources are sufficient to meet environmental demands, the individual experiences a positive motivational state called "challenge". If individual resources are insufficient, the individual experiences a negative motivational state called "threat".

---

<sup>1</sup> University of Clermont Auvergne, LAPSCO, Clermont-Ferrand, France, email: [morteza.charkhabi@uca.fr](mailto:morteza.charkhabi@uca.fr)

<sup>2</sup> Corresponding author; University of Ottawa, Department of Psychology, Ottawa, Canada

<sup>3</sup> University of Edinburgh, Scotland

<sup>4</sup> University of Otago, Department of Psychology, New Zealand

In organizational psychology literature, these two concepts have been more specifically formalized and refined in the challenge-hindrance occupational stressor model (Cavanaugh, Boswell, Roehling & Boudreau, 2000). This model adds the concept of hindrance to those of challenge and threat (Tuckey, Searle, Boyd, Winefield & Winefield, 2015). Hindrance is an appraisal of the stressor in which the individual has the resources to cope with the environmental demand, but is prevented to do so by exterior elements. For example, an employee may have the ability to resolve a problem, but is constrained by an administrative rule. In the context of job insecurity, one can speculate that an appraisal of challenge will be made when the employees perceive the current insecurity of the job as an opportunity to move forward (e.g. changing to another job), threat when they consider that the current insecurity of their job will create harm in some form (e.g. affecting financial security), and hindrance when they think that this insecurity will reduce their workplace mindfulness.



Figure 1. A conceptual model of the components of triangular scale of chronic job insecurity

The three types of appraisals (challenge, threat and hindrance) would lead to different psychological, behavioral and physiological outcomes. Challenge stressors in the workplace often have a favorable outcome such as increased performance and a stronger sense of accomplishment, threat stressors lead to an expectation of individual detriment or loss, while hindrance stressors thwart the attainment of personal goals and development (Cavanaugh et al., 2000). These different outcomes are also associated with different types of perceived stress (Tuckey et al., 2015) that are linked with different physiological states (Blascovich & Mendes, 2013). The chronic exposure to stress is in turn susceptible to result in strain (Bliese, Edwards & Sonnentag, 2017). This cascade of processes (stressors, appraisal, stress and strain) leads to a dynamic and ever changing conception of job insecurity rather than merely a perception that only leads to negative outcomes and this has never been taken into account by previous scales. Therefore, the aim of this research is to overcome this shortcoming, by developing a scale that particularly considers three important components of job insecurity including Stressor, Stress, and Strain (See Figure 1) as well as the different types of appraisal. The same structure will be used to develop this scale for both types of chronic job insecurity (quantitative and qualitative). On Figure 1, we briefly introduce each component and its subsequent elements.

**Chronic stressor.** This is the first component of chronic job insecurity, when an individual is faced with a situational stressor. The fear of losing the job is not a temporary, short-term fear. An individual may face this stressor when he/she communicates with colleagues at work, follows the media, reads the newspaper and/or when he/she sees the number of unemployed individuals within their surroundings and social networks. In this model, we draw a continuous connection between an individual and with possibility of losing their job. According to cognitive appraisal theory when individuals are faced with this stressor, they may appraise it in multiple ways. For example, an individual may appraise this stressor as a hindrance that targets his current career goals and aspirations. This stressor may also be appraised as a threat, when an individual believes that by being in an insecure job will hurt his financial independency or harm his current welfare. Lastly, it can be appraised as a challenge when an individual appraises this stressor as a way to withdraw from a current insecure position and seek out a more secure job that can better fulfill their personal needs. Appraising job insecurity in three different ways is supported by cognitive appraisal theory as well as job-demand control theory.

**Chronic stress.** This is the second component; when an individual begins to react psychologically and behaviorally to being stressed by the stressor. One may show emotional reactions to perceived job insecurity and later it can turn into behavioral reactions (e.g. absenteeism). As suggested by Severke et al (2002) these reactions are based on the focus and length of the stressor and can be divided into short and long-term outcomes. In this component,

we will select two short term and long-term outcomes associated with job insecurity and focus entirely on the individual level.

**Chronic strain.** This is the third component; when the psychological and behavioral demands go beyond the comfort zone of an individual and lead to physiological reactions. In the short term, they may only show physiological reactions such as increased blood pressure or headache. At more advanced levels physiological reactions may manifest into cardiovascular, neurological, gastrointestinal, eating and sleeping disorders. We will use a checklist of diseases that have been studied and linked with perceived job insecurity and physiological reactions.

### Research hypotheses

Since the main aim of this research work is to develop, test and validate a triangular scale of chronic job insecurity, our research hypotheses are related to psychometric properties of the scale as follows:

*H1. An exploratory factor analysis will extract three components for the chronic quantitative job insecurity scale with at least three items containing: a) stressor component, b) stress component and, 3) strain component.*

*H2. An exploratory factor analysis will extract three components for the chronic qualitative job insecurity scale with at least three items containing: a) stressor component, b) stress component and, 3) strain component.*

## Methods

### Participants

The number of participants required was determined based on a desired power of .80, a significance level of .05, the number of groups in our study and the size of the observed effect. The appropriate rate of participants in this study will be at least 500 employees in the first round and 50% of the same sample in the second round ( $n = 250$ ). To get a sufficient sample size we follow Kline's recommendation (2005, 2011) for the types of analyses (e.g., 10:1 ratio). 300 participants for the EFA (Study 1) and the CFA (Study 2) will be a sufficient sample size for a 30-item scale.

### Measures

**Chronic Quantitative Job Insecurity.** This will be a 15-item scale measuring quantitative job insecurity encompassing three components: chronic stressor (5 items), chronic stress (5 items) and chronic strain (5 items). In addition, this scale has an extra item to indicate the duration of months that an individual has felt such insecurity. Responses are recorded using a 5-point Likert response scale from 1 (*totally disagree*) to 5 (*totally agree*). Higher scores indicate higher chronic quantitative job insecurity. In addition, we will use a visual analogue scale to specify the strain-related outcomes. Reliability of this scale and all subsequent scales will be calculated using Cronbach Alpha.

**Chronic Qualitative Job Insecurity.** This will be a 15-item scale measuring qualitative job insecurity with three components: chronic stressor (5 items), chronic stress (5 items) and chronic strain (5 items). In addition, this scale has an extra item to indicate the duration of months that an individual has felt such insecurity. Responses are recorded using a 5-point Likert response scale from 1 (*totally disagree*) to 5 (*totally agree*). Higher scores indicate higher chronic qualitative job insecurity. In addition, we will use a visual analogue scale to specify the strain-related outcomes.

**Job insecurity.** 9-item Job Security Satisfaction Scale (JSS; Probst, 2003) will be used to measure job insecurity. An item example is '*upsetting how little job security I have*'. Responses are recorded using a 3-point Likert scale (*yes, no, do not know*) will be used to record responses. Higher scores indicate higher job insecurity. The JSS has shown high internal consistency with a Cronbach's alpha of .96 (Probst, 2003).

**Psychological contract breach.** A 2-item scale developed by Robinson and Morrison (2000) will be used. An item example is "*Overall, my employer has fulfilled its commitments to me*". Responses are recorded using a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Higher scores indicate higher psychological contract breach. The scale has shown high internal consistency with a Cronbach's alpha of .88 (Costa & Neves, 2017).

**Job Burnout.** The 16-item-Maslach Burnout Inventory-General Survey (MBI-GS) (Maslach, Jackson & Leiter, 1996) will be used to measure burnout. An item example is "*I feel used up at the end of the workday*". Responses are recorded using a 7-point Likert scale ranging from "0" (never) to "6" (daily). Higher scores indicate higher job burnout. This scale has shown high internal consistency with a Cronbach's alpha of .85 (Piccoli & Bellotto, 2015).

**Job turnover intention.** A 4-item scale of turnover intention developed by Hanisch and Hulin (1991) will be used. An item example is "*How often do you think about quitting your job?*". Responses are recorded using a 5-point

Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Higher scores indicate higher turnover intention. This scale has shown high internal consistency with a Cronbach's alpha of .78 (Probst & Ekore, 2015).

**Satisfaction with life scale (SWLS).** A 5-item scale designed by Diener, Emmons, Larsen and Griffin (1985) will be used. Responses are recorded using a 7-point Likert scale from 1 (*strongly agree*) to 7 (*strongly disagree*). An item example is "In most ways, my life is close to my ideal". Higher scores indicate higher life satisfaction. The SWLS has shown robust internal consistency with a Coefficient alpha of .87 (Diener et al., 1985).

**Job satisfaction.** A 4-item scale developed by Price (1997) will be used. An item example is "Most days I am enthusiastic about my job". Responses are recorded using a 5-point Likert scale from 1 (*totally disagree*) to 5 (*totally agree*). Higher scores reflect higher job satisfaction. The Cronbach's alpha reliability of the scale has been frequently reported above .70 (e.g., Charkhabi, 2019).

**Utrecht Work Engagement Scale (UWES).** A 17-item scale of work engagement developed by Schaufeli and Bakker (2003) will be used. Three underlying dimensions of work engagement are measured: vigor (six items), dedication (five items), and absorption (six items). Responses are recorded using a 6-point Likert scale from 1 (*never*) to 6 (*always*). Higher scores reflect higher work engagement. Lo Presti and Nonnis (2010) reported high internal consistency of UWES with a Cronbach's alpha of .89.

**Organizational Commitment Questionnaire (OCQ).** The 18-item scale of Organizational Commitment developed by Meyer and Allen (1996) will be used. This scale contains three six-item components: affective, continuance and normative commitment. Responses are recorded using a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores reflect higher organizational commitment. Dunham, Grube, and Castañeda (1994) reported Cronbach's alpha of the scale ranges from .74 to .87 for affective, .73 to .81 for continuance, and .67 to .78 for normative subscales.

**Mental and physical health.** These two constructs will be assessed with a scale developed by Ware, Kosinski, Turner-Bowker and Gandek (2007). This tool consists of 36 items and measures mental and physical components separately. Responses are recorded using a 5-point Likert response scale will be used to record responses from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores reflect greater mental and physical health. Gandek, Sinclair, Kosinski, & Ware (2004) estimated the Cronbach's alpha of the SF-36 to be above .70.

**Absenteeism/ presentism.** These constructs will be measured using two items created by Guest, Isaksson, & De Witte (2010). These items are "How often have you been absent from work due to your state of health over the last 6 months (pregnancy not taken into consideration)?", and "How often have you gone to work despite feeling that you really should have stayed away due to your state of health over the last 6 months?" for absenteeism and presentism respectively. Responses are recorded by counting occasions ranging from (0) (*never*) to 5 (*more than five times*).

### **Procedure.**

The research proposal of this study, which is in progress, will be submitted to the ethical committee of a Canadian university before we launch the study. The methodology used in this study will follow three major steps: 1) item creation, 2) item selection, and 3) item validation.

**Item creation:** In this step, all of the old and new definitions of qualitative and quantitative job insecurity will be reviewed to extract the main elements of both concepts. Upon completion, we will create items to cover all of these elements. This is an innovative scale as we will create items to be situated within the three following categories: Stressor component, Stress component and Strain component. Items created for the first component (Stressor) will target the extent to which employees perceive job insecurity as a *Hindrance*, *Challenge* or *Threat*. In this component, items will be designed in such a way to not only differentiate the label of how a participant will appraise job insecurity (Hindrance, Challenge or Threat) but also the severity of it (from 1 to 5). Items created for the second component (Stress) will target the psychological and behavioral reactions of employees toward perceived job insecurity. Items created for the third component (Strain) will target physiological reactions linked with perceived job insecurity that have been confirmed by previous studies. By including these three components, we can track the extent to which the perception of job insecurity may lead to stress-based reactions or strain-based reactions amongst employees. Indeed, we will use a top-down measure to uncover the effects of perceived job insecurity from when it is first perceived until when it results in negative physiological outcomes.

**Item selection:** The initial version of this scale including originally developed items will be sent to three academic professors who have a strong background in this topic to judge its face and content validity. Upon receipt of their evaluation, we will revise and resend for updated feedback. This procedure will be repeated until we reach consensus amongst all of the judges for each component and item.

**Item validation:** The validation of items will be completed through the three following steps:

During the first step the job insecurity scale, along with other variables that test convergent and divergent validity of this new scale, will be distributed amongst employees recruited from an online platform (Qualtrics). Participants will receive a web link that invites them to respond to scales on job insecurity and a scale for checking divergent validity (e.g., social desirability scale) and convergent validity (e.g., job insecurity scale and job burnout). Participants will receive instructions that (1) ask for their agreement to participate in this study voluntarily, (2) inform their right to withdraw from this study at any step they choose, (3) instruct how to respond to the questions, and (4) ask for their interest to participate in the second part of this study by marking a small box. At the end of this step, an exploratory and confirmatory factor analysis will be performed on the collected data to check eigenvalues of items. This analysis allows items with low eigenvalues to be discarded/replaced with new items. There will be a time interval of four weeks between first and second rounds of data collection. Participants will receive no intervention or manipulation (e.g., rewards) from the research team. After the time interval is respected, the second step will begin.

During the second step, participants who indicated their consent in the first round of data collection to participate in the second round will be contacted via email and re-invited to participate in the second round of data collection. Before this step begins, they will receive an email containing an appreciation text to praise their efforts during the first round of data collection. Upon completion of the second round of data collection, each participant will receive an email containing a final thank you. The arrangement of questions in the second online survey will vary to control for *practice effect*. The second data set will allow us to monitor the re-test validity of the job insecurity scale for the first time in France.

### **Planned analyses**

For this study, the statistical analyses considered are as follows: (1) test of exploratory factor analysis (EFA) with SPSS, (2) test of confirmatory factor analysis (CFA) with AMOS program, (3) test of Pearson correlation coefficient for divergent and convergent validity using SPSS, (4) test of correlation for test-retest validity using SPSS program.

### **Discussion**

Global competitions, modern technological equipment and tendency of employers to initiate short-term contracts with employees have increased the feeling of job insecurity among employees (e.g., De Witte, Vander Elst, & De Cuyper, 2015). In many cases, this feeling of job insecurity negatively affects well-being and vocational attitudes of employees. Lack of an appropriate scale to verify this link may lead to the unfair treatment of employees. Under this circumstance, employees may not be able to protect/follow up their basic rights. This research is aimed to develop, test and validate a new scale of job insecurity in order to measure the lack of job security and its subsequent psychological, behavioral and physiological consequences.

Our new and innovative scale of chronic job insecurity aims to remove weaknesses of previously developed scales from several perspectives. Firstly, one of the weaknesses of previous studies has been the implication that the concern of employees losing their job in the future is tied to only negative outcomes (e.g., De Witte, 2005). With this scale, we have proposed to measure the feeling of job insecurity through reported concern of employees in the past twelve months and link it to both negative and positive outcomes. Therefore, we have made a change in the tense of items that are going to measure both chronic quantitative job insecurity and chronic qualitative job insecurity. Secondly, we did not consider the feeling of job insecurity as a fixed variable that is produced at one point in time and disappears during another. We propose to measure perceived job insecurity in a fluid and dynamic context that can be produced, continued and led to strains. Thirdly, we outlined a time frame to give individuals the opportunity to inform us of when they have felt this insecurity within their job. Previous scales have failed to demonstrate this crucial aspect. Fourthly, this scale will use different Likert response scales for three components of job insecurity. Likert scales and Visual Analogue Scales (VAS) will be implemented for different components of our overall scale for the measurement of each component of job insecurity separately. Lastly, this scale offers ample freedom for individuals to express the way they appraise job insecurity in terms of hindrance, challenge and threat. This feature may provide researchers the opportunity to discover how job insecurity is not always associated with particular psychological, behavioral and physiological outcomes.

Several limitations will however not be addressed in our initial work on this scale. First, employees may have different definitions of time-based job insecurity. It may influence the amount of stress and strain they report. Second, we will not objectively measure the actual behavior of the employee. For instance, absenteeism will be assessed through a validated scale, and will therefore be a self-reported absenteeism. Finally, physiological pain will not be measured by using physiological measures (e.g., cortisol level or cardiac monitoring).

Future research should target objective levels of the physiological pain caused by job insecurity. We believe that these shortcomings are not crippling for the initial development of our scale, but rather offer interesting leads for its future use and improvement.

Overall, we strongly believe that our new scale will aid trade unions and insurance organizations to better support the rights of employees who have been negatively affected by the lack of job security or unfairly treated by employers or organizations. Thus, they can submit their complaints with evidence-based results.

Declaration

*Acknowledgment.* We would like to thank IAAP and ARTS organizers that provided us with an opportunity to define an international joint project.

*Funding.* Authors declare that up to date there is not specific fund available for this project.

*Conflict of interest.* Authors declare that they have no conflict of interest.

## References

- Allen, N. J. & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63, 1-18.
- Bliese, P. D., Edwards, J. R., & Sonnentag, S. (2017). Stress and well-being at work: A century of empirical trends reflecting theoretical and societal influences. *Journal of Applied Psychology*, 102(3), 389. doi: 10.1037/apl0000109.supp
- Blascovich, J. (2013) Challenge and threat. In: Elliot, A.J. (Ed.), *Handbook of Approach and Avoidance Motivation*. Psychology Press, New York, pp. 431–445.
- Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among US managers. *Journal of Applied Psychology*, 85(1), 65.
- Charkhabi, M. (2019). Quantitative Job Insecurity and Well-Being: Testing the Mediating Role of Hindrance and Challenge Appraisals. *Frontiers in Psychology*, 9. doi:10.3389/fpsyg.2018.02776
- Costa, S., & Neves, P. (2017). Job insecurity and work outcomes: The role of psychological contract breach and positive psychological capital. *Work & Stress*, 31(4), 375-394. doi:10.1080/02678373.2017.1330781
- De Witte, H. (2005). Job insecurity: Review of the international literature on definitions, prevalence, antecedents and consequences. *SA Journal of Industrial Psychology*, 31(4), 1-6.
- De Witte, H., De Cuyper, N., Handaja, Y., Sverke, M., Näswall, K., & Hellgren, J. (2010). Associations between quantitative and qualitative job insecurity and well-being: A test in Belgian banks. *International Studies of Management & Organization*, 40(1), 40-56. doi:10.2753/imo0020-8825400103
- De Witte, H., Vander Elst, T., & De Cuyper, N. (2015). Job Insecurity, Health, and WellBeing. In J. Vuori, R. Blonk, & R. H. Price (Eds.), *Sustainable Working Lives: Managing Work Transitions and Health Throughout the Life Course*. New York: Springer, pp. 109-128. doi: 10.1007/978-94-017-9798-6
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71-75. doi:10.1207/s15327752jpa4901\_13
- Dunham, R. B., Grube, J. A., & Castañeda, M. B. (1994). Organizational commitment: The utility of an integrative definition. *Journal of Applied Psychology*, 79(3), 370-380. doi:10.1037//0021-9010.79.3.370
- Gandek, B., Sinclair, S. J., Kosinski, M., & Ware, J. E. (2004). Psychometric evaluation of the SF-36 health survey in Medicare managed care. *Health care financing review*, 25(4), 5-25.
- Guest, D. E., Isaksson, K., & De Witte, H. (2010). *Employment Contracts, Psychological Contracts, and Employee Well-Being*. doi:10.1093/acprof:oso/9780199542697.001.0001
- Hanisch, K. A., and Hulin, C. L. (1991). General attitudes and organizational withdrawal: An evaluation of a causal model. *Journal of Vocational Behavior*, 39, pp.110-128.
- Hellgren, J., Sverke, M., & Isaksson, K. (1999). A Two-dimensional Approach to Job Insecurity: Consequences for Employee Attitudes and Well-being. *European Journal of Work and Organizational Psychology*, 8(2), 179-195. doi:10.1080/135943299398311
- Kline, R. B. (2005). *Methodology in the social sciences. Principles and practice of structural equation modeling (2<sup>nd</sup> ed.)*. New York, NY, US: Guilford Press.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York, NY: Guilford.
- Lazarus, R., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York: Springer.
- Lo Presti, A., & Nonnis, M. (2010). Moderated effects of job Insecurity on Work Engagement and Distress. *PsycEXTRA Dataset*. doi:10.1037/e572992012-425

- Maslach, C., Jackson, S.E., & Leiter, M.P. (1996). *Maslach Burnout Inventory. Manual*. Palo Alto, CA: Consulting Psychologists Press.
- McDonough, P. (2000). Job Insecurity and Health. *International Journal of Health Services*, 30(3), 453-476. doi: 10.2190/bpfg-x3me-lhta-6rpv
- Piccoli, B., & Bellotto, M. (2015). New Insights for the Management of Job Insecurity-Psychological Wellbeing Relationship. *Journal of Economics, Business and Management*, 3(11). doi:10.7763/joebm.2015.v3.338
- Price, J. (1997). *Handbook of organizational measurement*. Bradford, UK: MCB University Press.
- Probst, T. M. (2003). "Development and validation of the Job Security Index and the Job Security Satisfaction Scale: A classical test theory and IRT approach". *Journal of Occupational and Organizational Psychology*, 76, 451-467.
- Probst, T. M. (2008). Job Insecurity. In J. Barling & C. L. Cooper (Eds.), *The SAGE Handbook of Organizational Behavior*, (1):178-195. London: Sage.
- Probst, T. M., & Ekore, J. O. (2010). An Exploratory Study of the Costs of Job Insecurity in Nigeria. *International Studies of Management & Organization*, 40(1), 92-104. doi:10.2753/imo0020-8825400106
- Robinson, S. L., & Morrison, E. W. (2000). The development of psychological contract breach and violation: A longitudinal study. *Journal of Organizational Behavior*, 21, 525-546.
- Schaufeli, W. B., & Bakker, A. B. (2003). *Test manual for the Utrecht Work Engagement Scale*. Unpublished manuscript, Utrecht University, the Netherlands. Retrieved 2012, from: <http://www.schaufeli.com>.
- Shoss, M. K., Jiang, L., & Probst, T. M. (2018). Bending without breaking: A two-study examination of employee resilience in the face of job insecurity. *Journal of Occupational Health Psychology*, 23(1), 112.
- Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: a meta-analysis and review of job insecurity and its consequences. *Journal of occupational health psychology*, 7(3), 242.
- Tarakci, H., Kulkarni, S., & Ozdemir, Z. D. (2018). The impact of wearable devices and performance payments on health outcomes. *International Journal of Production Economics*, 200, 291-301. doi:10.1016/j.ijpe.2018.04.003
- Tuckey, M. R., Searle, B., Boyd, C. M., Winefield, A. H., & Winefield, H. R. (2015). Hindrances are not threats: Advancing the multidimensionality of work stress. *Journal of Occupational Health Psychology*, 20(2), 131.
- Vander Elst, T., De Cuyper, N., & De Witte, H. (2010). The role of perceived control in the relationship between job insecurity and psychosocial outcomes: moderator or mediator? *Stress and Health*, 27(3), 215-227. doi:10.1002/smi.1371
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of vocational behavior*, 54(2), 314-334.
- Ware, J., Kosinski, M., Turner-Bowker, D. M., & Gandek, B. (2007). *User's manual for the SF-12v2 Health Survey*. Lincoln, RI: QualityMetric Incorporated
- Yurkiewicz, I. R., Simon, P., Liedtke, M., Dahl, G., & Dunn, T. (2018). Effect of Fitbit and iPad Wearable Technology in Health-Related Quality of Life in Adolescent and Young Adult Cancer Patients. *Journal of Adolescent and Young Adult Oncology*, 7(5), 579-583. doi:10.1089/jayao.2018.0022

## Appendix

- Quantitative job insecurity is the overall concern about the continuous existence of your job in the future. Given this definition since when have you seriously/clearly felt quantitative job insecurity:

Never	1 month ago	2 month ago	3 month ago	4 month ago	5 month ago	6 month ago	7 month ago	8 month ago	9 month ago	10 month ago	11 month ago	12 month ago

- Qualitative job insecurity is the overall concern about the characteristics of your job in the future. Given the definition of quantitative job insecurity since when have you seriously/clearly felt qualitative job insecurity:

Never	1 month ago	2 month ago	3 month ago	4 month ago	5 month ago	6 month ago	7 month ago	8 month ago	9 month ago	10 month ago	11 month ago	12 month ago

## Commentary: ARTS has Ancestors



Robert F. Morgan

### Advanced Research Training Seminars (ARTS)

From the IAAP web site: "The ARTS are capacity-building workshops that take place every four years in conjunction with the International Congresses of Applied Psychology (ICAP). ARTS promote excellence in research skills and facilitate exchange and dialogue amongst early career scientists. ARTS has several components:

1. *Learning* – Participants have the opportunity to follow several online seminars on general topics (e.g., writing funding application, performing statistics, and knowledge about a particular aspect of psychology).
2. *Research* – ARTS participants work on a project with their peers in groups of three to five people. Team projects are defined and led by the team leaders and consist of the creation of a research protocol on a specific topic.
3. *Feedback* - During ARTS, participants have the opportunity to present their own research (poster) and to receive feedback from their peers and team leaders.
4. *Presentation* - Teams presented their team project at the symposium organized by ICAP 2018 and had the opportunity to hear suggestions from renowned experts."

### Prince Edward County, Virginia USA

**March 18, 1963** - U.S. attorney general Robert F. Kennedy said during a speech: "*The only places on earth not to provide free public education are Communist China, North Vietnam, Sarawak, Singapore, British Honduras—and Prince Edward County, Virginia.*"

This small rural county has earned several significant places in history, including in the history of applied psychology.

In the United States, it was one of five public school districts that took their case against segregated education to the country's Supreme Court, eventually winning there in 1954. That continuing an apartheid system in schools was, as of that year, no longer legal in this country, did not immediately resolve the issue. Resistance to this change was massive, vestiges remaining even today, and took many forms. In Prince Edward County, the School Board closed their public schools completely for five years to avoid desegregation, abandoning the education of more than three thousand children aged 5 to 18, 90% of which were African-American. (About 300 of these were below poverty level white children whose parents could not afford the tuition, or the low ethical mission of the all-white private academy that sprang up to replace public education.)

The court that had mandated "*all deliberate speed*" so many years before did finally run out of patience. When they mandated the re-opening of the school in 1963, there was an opportunity to do some substantial research on the consequences of this long educational deprivation on such a large and age-diverse cohort of children.

A federal grant to do this was awarded, for the first time, to a Civil Rights organization: the Southern Christian Leadership Council (SCLC) of Dr. Martin Luther King Jr. Heading up the research team was psychologist Robert Lee Green (Morgan 2011). I got to tag along as his graduate student assistant.

We did extensive testing of the educationally deprived children of the county along with a comparison cohort in a neighboring county plus the available before and after closing records for each child, ages 5-18 at the time of the closing.

The findings ranged from useful to surprising to revolutionary. For example: useful were the identification of critical periods for learning at the earliest ages with implications for optimal reading and mathematics exposure. Surprising was that, despite major cognitive deficits, academic self-concept remained high, possibly due to the comfort of handicap occurring to the majority of their peers. Revolutionary was the finding that absence of schooling found a substantial and significant deficit in tested intelligence for the disadvantaged thousands of children locked out of the public schools., or: tested intelligence scores depended on education (Green 1969, Green et al 1967, 1969, 1970a, 1970b, Morgan 1969).

This at a time when tested intelligence was assumed to be lifelong and immune to enriched experience. It meant that the apartheid system was creating performance deficits in the children and, even more important, effective education raises intelligence, including learning to learn. Consequently, for example, the early Head Start programs were required to show a rise in average tested intelligence which Bob Green and I found, as site visitors, happened reliably in good programs.

The relationship to ARTS?

For that we look earlier in time at how these entire Prince Edward County school events began.

We begin with an abridged chronology (*United States Department of the Interior, National Park Service, 2005; Epps-Robertson, 2013; Heinemann, 2014*):

### **Davis v. Prince Edward County School Board**

#### **Robert Russa Moton High School, Farmville, Virginia**

*Prior to 1939, the only secondary school education available to African Americans in Prince Edward County, Virginia, was a few extra grades in one elementary school.<sup>4</sup> That year, however, a new black high school named after the president of Tuskegee Institute opened. As with the other 11 high schools for African Americans in Virginia, Robert Russa Moton High School proved to have inadequate facilities. The one-story brick structure had no gymnasium, cafeteria, lockers, or auditorium with fixed seating (unlike Farmville High School for whites only). Built to accommodate 180 students, the school was overflowing with more than 400 students by 1950. Eventually, three temporary buildings (dubbed the “tar paper shacks” because of the flimsy material covering the wooden framework) were constructed to ease overcrowding.*

*On April 23, 1951, students of Moton High School led a strike to protest the overcrowded conditions, the inadequate shacks, and the school boards unwillingness to build a new high school. After consulting with the Richmond, Virginia office of the NAACP, they decided to sue for integration (not for just improved facilities) and to continue the strike until the school year ended on May 7. On May 23, attorneys filed suit in the Federal District Court for the immediate integration of Prince Edward County schools. The court’s decision in the case known as Davis v. the County School Board of Prince Edward County favored the county. The case reached the U.S. Supreme Court on appeal.*

### **Barbara Johns and the Student Strike**



Robert Russa Moton High School

*Sixteen-year-old Barbara Rose Johns—niece of Vernon Johns, the firebrand preacher who preceded Martin Luther King Jr. as pastor of the Dexter Avenue Baptist Church in Montgomery, Alabama—organized the walkout. She was motivated less by her uncle’s personality than by conditions at Moton High School, named for the Virginia-born educator Robert Russa Moton and the first high school for black students in Prince Edward County. Built in 1939 to accommodate 180 students, the school had no gymnasium, no cafeteria, no science laboratories, and no athletic field. A decade later, the county constructed several freestanding buildings, made of plywood and tar paper, to accommodate a student population of more than 400. The buildings had no plumbing and were heated by wooden stoves. As Johns wrote years later, “I was unhappy with the school facility and its inadequacies ... it wasn’t fair that we had such a poor facility, equipment, etc., when our white counterparts enjoyed science laboratories, a huge facility, separate gym dept. etc.”*

*Johns and several other students decided to walk out of the school and to return only if and when the school board promised a new building. New facilities, not the desegregation of those facilities, were the group’s initial objective.*

Shortly after eleven o'clock on the morning of April 23, 1951, the students called an assembly without the knowledge of the school's principal. Johns detailed the group's grievances, and its plan was greeted with overwhelming student support. For the remainder of the day, students picketed the school, both inside and outside, with placards proclaiming, "We want a new school or none at all" and "Down with tar-paper shacks." The following day, student leaders walked to the Farmville courthouse, where they met with school superintendent T. J. McIlwaine, who told them nothing could be done until they returned to classes. The students refused to do so until May 7, and in the interim, the ensuing events moved beyond their original intentions. (Heinemann, 2014)

- **1939** - Robert Russa Moton High School, named for the Virginia-born educator and built with Public Works Administration funding, opens for black students in Prince Edward County. It is one of only twelve black high schools in rural Virginia.
- **1948** - To alleviate overcrowding in classrooms, tar-paper buildings are constructed at the all-black Moton High School in Prince Edward County.
- **1950** - Enrollment at the all-black Robert Russa Moton High School in Prince Edward County reaches 477 students, far exceeding the school's capacity of 180.
- **April 23, 1951** - Under the leadership of Barbara Johns, fellow students at the all-black Robert Russa Moton High School in the town of Farmville in Prince Edward County walk out of their school to protest the unequal conditions of their education as compared to those of the white students in nearby Farmville High School.
- **April 25, 1951** - Oliver W. Hill and Spottswood Robinson, lawyers for the NAACP, arrive in Prince Edward County to help the students of Robert Russa Moton High School, who have gone on strike.
- **April 26, 1951** - Virginia NAACP Executive Secretary Lester Banks meets with students of the all-black Robert Russa Moton School and their parents, telling them that the NAACP is willing to take on their case in an attempt to end segregation. Three days earlier, the students had walked out of school in protest of unequal conditions.
- **May 7, 1951** - After leaving school two weeks earlier in protest of unequal conditions, students at the all-black Robert Russa Moton High School return to class.
- **May 23, 1951** - The NAACP files the suit *Davis, et al. v. County School Board of Prince Edward County, Virginia* in federal court, challenging the constitutionality of segregated education in Prince Edward County schools on behalf of black students and their parents.
- **March 7, 1952** - The U.S. District Court rules against the students of Robert Russa Moton High School in Prince Edward County, upholding the constitutionality of segregated public schools, but orders that the black schools be made physically equal to the white schools.
- **December 1952** - U.S. Supreme Court hearings begin in the case of *Brown v. Board of Education of Topeka, Kansas*, which is actually five cases from across the country bundled together including the Virginia case of *Davis, et al. v. County School Board of Prince Edward County*.
- **1953** - To thwart school desegregation court cases, Prince Edward County constructs a new Moton High School in an effort to equalize school facilities for black and white students.
- **May 17, 1954** - The U.S. Supreme Court rules in *Brown v. Board of Education of Topeka, Kansas*, that segregation in schools is unconstitutional, but fails to explain how quickly and in what manner desegregation is to be achieved. The decision leads to the Massive Resistance movement in Virginia.
- **May 31, 1955** - The U.S. Supreme Court issues a vague ruling outlining the implementation of desegregation to occur "with all deliberate speed," a ruling now commonly known as *Brown II*.
- **July 1955** - The U.S. Supreme Court remands the Prince Edward case to end segregation in the public schools to a special three-judge District Court panel. The panel calls for the county to begin the "adjustment and re-arrangement" necessary to end segregation, but does not set a firm date.
- **February 25, 1956** - U.S. senator Harry F. Byrd calls for a strategy of "Massive Resistance" to oppose the integration of public schools in Virginia.
- **August 27, 1956** - Governor Thomas B. Stanley announces a package of Massive Resistance legislation that will become known as the Stanley Plan. Among other things, the plan gives the governor the power to close any schools facing a federal desegregation order.
- **November 1957** - The Fourth Circuit Court of Appeals orders integration of the Prince Edward County Schools "without further delay." But the Prince Edward County School Board wins a stay of this order pending appeal to the U.S. Supreme Court, which turns down the appeal and returns the case to District Judge Sterling Hutcheson to set a precise timetable.

- **1958** - District Judge Sterling Hutcheson rules that "all deliberate speed" means Prince Edward County can delay public school integration until 1965.
- **September 15–27, 1958** - Governor J. Lindsay Almond Jr. closes schools in Charlottesville, Front Royal, and Norfolk, and threatens to close others if they attempt to desegregate.
- **January 19, 1959** - Both the Virginia Supreme Court of Appeals and the U.S. District Court overturn the decision of Governor J. Lindsay Almond Jr. to close schools in Front Royal, Charlottesville, and Norfolk.
- **May 5, 1959** - The U.S. Fourth Circuit Court of Appeals overturns Judge Sterling Hutcheson's ruling in the case of segregated schools in Prince Edward County and orders Prince Edward to integrate its schools by September 1, 1959. NAACP and Prince Edward County lawyers will continue to fight in court over desegregation of the schools for the next five years.
- **June 26, 1959** - After eight years of court cases and delays related to school desegregation, the Prince Edward County Board of Supervisors votes not to fund public schools in the 1959–1960 school year.
- **September 10, 1959** - Public schools close in Prince Edward County. Prince Edward Academy opens for white students.
- **1960** - The Quaker-oriented American Friends Service Committee begins efforts to send black students denied education in Prince Edward County out of county for their education.
- **March 28, 1962** - Martin Luther King Jr. visits Prince Edward County.
- **December 1962** - The U.S. Department of Justice files a friend of the court brief on behalf of the NAACP in their appeal of the closing of the Prince Edward County schools.
- **February 28, 1963** - President John F. Kennedy mentions the Prince Edward County school closings in a civil rights address to the U.S. Congress.
- **March 18, 1963** - U.S. attorney general Robert F. Kennedy says during a speech: "the only places on earth not to provide free public education are Communist China, North Vietnam, Sarawak, Singapore, British Honduras—and Prince Edward County, Virginia."
- **September 16, 1963** - The 1,500 black students of Prince Edward County, mostly unschooled for four years, are invited to return to formal classes through the assistance of the new, privately organized Prince Edward Free School Association, which leases four of the closed public school facilities for one year with the support of federal officials and private funds.
- **May 25, 1964** - After Prince Edward County's public schools have been closed for the previous five years, the U.S. Supreme Court in *Griffin v. School Board of Prince Edward County* rules that the county has violated the students' right to an education and orders the Prince Edward County schools to reopen.
- **September 8, 1964** - About 1,500 students, all but eight black, attend classes in the Prince Edward County public schools for the first time in five years.
- **August 31, 1998** - Robert Russa Moton High School is placed on the National Register of Historic Places by the U.S. secretary of the interior, the highest level of historical recognition offered by the federal government.
- (U.S. Department of the Interior, National Park Service, 2005)

### How it Really Began

Let's now go back before the 1951 student strike. Back to when student strike leader Barbara Johns was just beginning her high school education.

At an even earlier date, her school Principal (originally this was "Principal Teacher") had grown up in the county and, cognitively enriched by highly effective parenting, was apparently the first to leave the county so as to go on to enroll in college. Graduating with a teaching credential, he chose to return to Prince Edward County. Further dedicated, he became the main teacher for the children exiled to their dilapidated school. Setting aside the prevailing educational approach of the day, learning Latin and Greek for example, he focused instead on basic reading and other communication skills, comprehensive core learning content, and, most important, a love for learning to learn. We are all born with the immediate dilemma of understanding what strange universe we newborns find ourselves in. This fundamental drive can be suppressed but, if enriched and encouraged, it becomes the lifelong foundation of our true education.

So this was how the Principal proceeded. One more thing. He urged the students into critical thinking. That meant voluminous reading, as much as the oldest children could access.

His planned event for the seniors (the eldest cohort in their last year at the school) was a months-long class project. This project they would undertake on their own, with no adult supervision, culminating in a presentation for all the

school's children. For this they would use their developed scholarly and critical skills. Much like the ARTS symposium presentations.

The Principal did not participate, waiting to be pleasantly surprised at demonstration day.

The cohort decided their project would evaluate whether or not the "separate but equal" schools were really equal. They counted books available in the school with all white students. Not just books but also square footage, teacher-student ratio, and much more thoughtful comparison. They already knew their tar paper building and its contents would not be equal. But now they could present the formal evidence, all carefully documented.

And one more component to the student project research: what we today would call "advocacy". Union strikes were read about, plans were made.

The day of the presentations, Barbara Johns and her peers went on strike. They did take the important step of alerting the press and supportive adult organizations that valued fairness, equity, and civil rights. Plus the national media in the early 1950s characterized the teenagers of the time as an "apathetic generation". To strike for more school books and teachers was considered... *interesting*.

Of course the Principal was fired. Three years later the Supreme Court decided in favor of the plaintiffs- separate was *not* equal. But the county School Board did not follow the law and five years later they closed the schools. You know the rest of the story from there.

There were some of the "lost generation" of Prince Edward County's displaced children that would eventually receive some help. Dr. Robert Lee Green, particularly, placed many of the survivors in settings furthering their education, including some in universities. The cultural message was to upgrade the public schools and make them racially equitable.

The other message, less well known, was that even pre-adult learners, critically skilled, made eventual constructive change. Their student methodology of search, research, communicate, and advocate is important to remember. At a higher level of education, within international applied psychology, ARTS follows this pattern.

### **Two Final Precursor Examples from the 1960s Come to Mind**

(1) The very best Head Start program I ever site visited was run by a Social Worker. She had no early childhood education credentials or training, so she improvised. On Monday she and the 4 year old children would share their special questions about that strange world they were born into: "*Why is the sky blue?*" or "*How can airplanes fly?*" If they chose airplanes, then on Tuesday the teacher would bring books and materials on airplanes to the class. Wednesday the children would work on a presentation planned for Friday, including making drawings and models. Thursday might involve a field trip to an airport. Friday the presentation would come, parents invited. It would include things they might want to follow up about airplanes. They were well on the way to learning to learn about our world, things they really cared about.

CONTEXT NOTE: Canada's NewStart program, a version of that country's Head Start, had parallel and excellent approaches at the same time. Based on our greater 21<sup>st</sup> century international understanding of critical learning periods, early childhood education is now an increasingly global priority. Practical (applied?) Psychology is a core discipline that can be taught developmentally appropriate through the grades in parallel with other school subjects.

(2) One of the earliest university classes I taught was in the state of New York. These were students in their last year before graduating. The whole class of psychology majors spent most of their academic year doing research on a key psychological question they each had chosen to learn about. All this in preparation for a final public research presentation at the end of the year. Overall, the periodic report papers were excellent. As this approach was growing at other universities, here and internationally, I could identify another ARTS process precursor.

CONTEXT NOTE: Only one student was doing poorly. Let's call him David. As that was his name. David was congenial and worked hard but, even so, he was barely passing. All the others were generating A+ papers. David was doing no better in his other classes. So I was surprised when, following his near failing mid-term report, he asked me to do a letter of applicant reference for him to graduate school at Harvard University. I reminded him that he was not doing well and my reference might not be helpful. He said he knew but it was really important that I do this for him. I finally said I would do a brief letter of reference and show him the draft. This I did:

*"I am impressed with David's ambition, despite poor grades, to apply to Harvard. He works very hard and this is likely the best he will do. He is a friendly person and reasonably well liked."* On my letter head with a signature.

David was pleased and said he would send in the draft. I felt sorry for him. Imagine then my surprise when, following a very weak presentation at the end of the year, he announced that he had been accepted at Harvard. I did ask him later how this could be. He said:

*"My father said he would endow a new wing on their library if they would admit me but they still wouldn't do it unless I could get at least one of my professors to write a reference letter. You were the only one who would. So thanks*

again." Learning here on my part. (I looked David up recently. He is now a minority party member of his state legislature.)

### References

- Epps-Robertson, Rebecca Candace (2013). *"We're Still Here! The Rhetorical Education of the Prince Edward County Free School Association, 1963-1964"*. Writing Program – Dissertations. Paper 36. Syracuse, N.Y.: Syracuse University.
- Green, R.L. (Ed.), (1969) *Racial Crisis in American Education*. Chicago: Follett.
- Green, R.L., Hoffman, L.J., Morse, R., Hayes, M., & Morgan, R.F. (1964). *The educational status of children in a district without public schools*. Washington, DC: U.S. Office of Education cooperative research project report 2321.
- Green, R.L., Hoffman, L.J., Morse, R., & Morgan, R.F. (1965). *The educational status of children during the first school year following four years of little or no schooling*. Washington, DC: U.S. Office of Education cooperative research project report 2498.
- Green, R.L., Morgan, R. F. & Hoffman, L.J. (1967). The effects of deprivation on intelligence, achievement, and cognitive growth: A review. *J. Negro Education*, 36, 5-14.
- Green, R.L. & Morgan, R.F. (1969). The effects of resumed schooling on the measured intelligence of Prince Edward County's Black children. *J. Negro Educ.* 38, 147-155.
- Green, R.L., Morgan, R.F. & Hoffman, L.J. (1970a). Effects of deprivation on intelligence, achievement, & cognitive growth. Chapter 1 in Robert Wilcox (Ed), *The Psychological Consequences of Being a Black American: Research by Black Psychologists*. New York: Wiley & Sons
- Green, R.L. & Morgan, R.F. (1970b). The effects of resumed schooling on the measured intelligence of Prince Edward County's Black children. In Roger Wilcox (Ed.), Chapter 9, *The Psychological Consequences of Being a Black American: Research by Black Psychologists*. New York: Wiley.
- Heinemann, R. L. (2014). Moton School Strike and Prince Edward County School Closings. In *Encyclopedia Virginia*. Retrieved from: [http://www.EncyclopediaVirginia.org/Moton\\_School\\_Strike\\_and\\_Prince\\_Edward\\_County\\_School\\_Closings](http://www.EncyclopediaVirginia.org/Moton_School_Strike_and_Prince_Edward_County_School_Closings).
- Morgan, R.F. (1969). "Compensatory education and educational growth." In Robert L. Green (Ed.), *Racial Crisis in American Education*. Chicago: Follett, 1969. Chapter 9:186-219.
- Morgan, R.F. (2011). The Unknown International Psychologist. *Bulletin of the International Association of Applied Psychology*, October, 23(4), 36-38. Supplement to *Applied Psychology: an International Review*. United States Department of the Interior, National Park Service (2005): *Brown v. Board: Five Communities That Changed America*.

## Mission Statement

*Applied Psychology Around the World* (APAW) is the newest of the three official publications of the International Association of Applied Psychology. We have two Academic Journals: *Applied Psychology: An International Journal* (<https://onlinelibrary.wiley.com/journal/14640597>) and *Applied Psychology: Health and Well-Being* (<https://onlinelibrary.wiley.com/page/journal/17580854/homepage/productinformation.html>). Our e-News is published once a month with a series of regular information about Applied Psychology and our community.

*Applied Psychology Around the World* (APAW) is our new publication; APAW has an ISSN registration number: 26939-6521. Members of the International Association of Applied Psychology are notified when a new issue is made available online. The APAW is only distributed online, with three thematic issues per year.

The purpose of APAW is to share news and reports about applied psychology, through theme-based articles, written by members of the International Association of Applied Psychology. The themes are determined in advance so that one can prepare a paper in relation to the theme of the issue.

The themes of the three upcoming issues and article deadlines are as follows:

Vol. 1. Issue 2: *Gender equality*, papers due by May 1<sup>st</sup> (June issue)

Vol. 1. Issue 3: *Terrorism & Peace building*, papers due by September 1<sup>st</sup> (October issue)

Vol. 2. Issue 1: *IAAP's Centennial Anniversary*, papers due by December 1<sup>st</sup> (January issue)

APAW welcomes submissions of papers addressing the themes of each issue; around a given theme, one can include scientific research projects, data analysis, information of various kinds (books on the topic, conferences, etc.), and practice related to applied psychology around the world on the theme of the concerned issue. Submissions are encouraged from members in all regions of the world. Articles should be written in a way to be understood by a diverse range of readers with differing levels of expertise in psychology (undergraduate students, postgraduate students, practitioners or Professors), in correct English (using the US spell check).

## How to Prepare Articles and News Items for APAW

Authors may correspond with the Chief-Editors, Christine Roland-Lévy at [president@iaapsy.org](mailto:president@iaapsy.org) and Christina Sue-Chan at [secretarygeneral@iaapsy.org](mailto:secretarygeneral@iaapsy.org). In the subject line of your email, enter the subject: "Submission for Publication in APAW". All articles and news items for publication consideration should be submitted in electronic form only in a Word compatible file. Short papers are preferred.

For papers, a short title, the list of authors, their e-mail address, institutions, and the corresponding author (to whom communications about the articles should be directed). Papers must include an abstract of no more than 200 words and up to five keywords. Articles with references should follow the style of the American Psychological Association (author's name and date of publication parenthesized in the text) and all works cited should be listed alphabetically by author after the main body of the text.

Figures (including color or black and white photos), if any, should be sized close to finish print size, at least 300 dpi resolution, and saved in a common graphic format (e.g., TIF, EPS, JPG, or PDF).

By submitting a paper or new items, authors imply confirmation that all listed authors have approved the text. Every submission is reviewed by the Editors for conformity to the overall guidelines and suitability for APAW. The copyright of all papers published in APAW is held by the IAAP.

# IAAP BOARD OF DIRECTORS

## OFFICERS

Christine Roland-Lévy, France  
President

Janel Gauthier, Canada  
Past-President

Christina Sue-Chan, Hong Kong  
Secretary-General

Lourdes Munduate, Spain  
Treasurer

Lyn Littlefield, Australia  
Divisions Coordinator

Marie-Hélène Pelletier, Canada  
Membership Coordinator

## PRESIDENTS OF DIVISIONS

Barbara Kożusznik, Poland  
Division 1

Kurt Geisinger, USA  
Division 2

Rolando Díaz Loving, Mexico  
Division 3

Terry Hartig, Sweden  
Division 4

Frédéric Guay, Canada  
Division 5

Daniel Dodgen, USA  
Division 6

Despina Moraitou, Greece  
Division 7

Sonia Lippke, Germany  
Division 8

Tomasz Zaleśkiewicz, Poland  
Division 9

Fanny Verkampt, France  
Division 10

Wilson López López, Colombia  
Division 11

Elisabeth Rosnet, France  
Division 12

Kazumi Renge, Japan  
Division 13

Peter Graf, Canada  
Division 14

Pedro Altungy, Spain  
Division 15

Paul Hartung, USA  
Division 16

Robyn Vines, Australia  
Division 17

Ana Maria Jacó-Vilela, Brazil  
Division 18

## MEMBERS-AT-LARGE

Harris Shah Adb Hamid, Malaysia

Lisiane Bizarro, Brazil

Sheyla Blumen, Peru

James Bray, USA

Renan de Almedia Sargiani, Brazil

Annamaria Di Fabio, Italy

David Dozois, Canada

Ferdinando Fornara, Italy

Nuria Gamero, Spain

Richard Griffith, USA

James Kagaari, Uganda

Erich Kirchler, Austria

Silvia Koller, Brazil

Saswata Kumar Biswas, India

Judy Kuriansky, USA

Gary Latham, Canada

David Leiser, Israel

Jeremy Lemoine, France

Kobus Maree, South Africa

Andrew Martin, Australia

Vicente Martinez-Tur, Spain

Susan McDaniel, USA

Andrew A. Mogaji, Nigeria

Luminita Patras, Spain

Maria Paz Garcia-Vera, Spain

Kristina Potocnik, Scotland

Diana Prescott, USA

Paul Wesley Schultz, USA

Ralf Schwarzer, Germany

Purnima Singh, India

Tushar Singh, India

Tholene Sodi, South Africa

Sabine Sonnentag, Germany

Ute Stephan, England

Yanjie Su, China

Usha Subaa, Nepal

Anwarul Hasan Sufi, Bangladesh

Akira Tsuda, Japan

Ole Tunold, Norway

Richu Wang, China

Liqi Zhu, China