



Measurement of hard-life experiences through the psychological sense: the SEM approach

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Abstract

This paper aims to develop a scale for hard-life experiences through a psychological sense. Past hardships can impact individuals' cognition, stress levels, and resilience. Learning about hard-life experiences is one aspect of longitudinal studies on the historical life of key leaders, focusing on the traumatic feelings from childhood to adulthood. The sample consists of answers from 149 key leaders who are business owners, managers, and entrepreneurs in Vietnam. The structural equation modeling was applied to investigate the validity and reliability of hard-life experience measurement scales with two coherent constructs. This study discovers two sub-scales chronic and acute hard-life experiences to measure key leaders' hardship during their lifetime, equivalent for the period of childhood up to adolescence, and the adult period of individual key leaders essentially. This study makes a significant contribution by introducing a new benchmark to the existing literature on the experiences of business owners, crucial managers, and entrepreneurs. Scholars can use this scale to investigate relationships between hard-life experience factors and others by quantitative methods.

Keywords: Hard-life experiences, Manager, Entrepreneur, Business owner, Measurement

1. Introduction

Life experiences from various life events play a significant role in several areas, such as psychology, health, behavior, and organizational decision-making. Within health research, life events are associated with physical and chronic illnesses, psychiatric symptomatology,

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and depressive symptoms (Wyler *et al.*, 1971; Dekker and Webb, 1974; Tausig, 1982). In psychology research, life events can trigger compassion in organizations (Lilius *et al.*, 2008) and shape an individual's mental state (Caputo *et al.*, 2017), particularly those in managerial positions (Ortiz-Avram *et al.*, 2018). Additionally, life experiences are instrumental in determining awareness of entrepreneurial opportunities and positively correlating with entrepreneurial personality in adolescence and adulthood (Obschonka *et al.*, 2010). Overall, the necessity and impact of hard-life experiences have been widely recognized in academic and practical studies across various disciplines.

Initially, life experiences were categorized based on loss, gain, ambiguous events, change, and undesirability events (Anson *et al.*, 1990), but later research shifted its focus to mainly explore the impact of undesirable life events due to their significant influence on research (Bonanno, 2004). Various methods were employed to assess and score life events, such as assigning scores to loss events (Dohrenwend, 1973b) or using social readjustment ratings to determine their relative impact (Holmes and Rahe, 1967). However, evidence suggests that the items in the scale may possess internal structure, warranting further investigation and clarification through techniques like factor analysis (Skinner and Lei, 1980). The absence of internal evaluation could lead to the life experience scale comprising a set of statistically unrelated items, which poses a risk to its validity and reliability. Surprisingly, no previous research has focused on developing a scale for internal assessment, validity, and reliability evaluation. Upon completing the systematic review and interview stages, structural equation modeling (SEM) offers a valuable approach to assess these essential aspects of the scale's quality and reliability.

The primary objective of this paper is to construct a comprehensive scale for assessing hard-life experiences from a psychological perspective. It identifies contributing factors through internal statistical analysis and investigates undesirable life events experienced by key leaders. The resulting sub-scales, chronic and acute hard-life experiences, measure hardships faced by key leaders. This study adds significantly to the literature on business owners, managers, and entrepreneurs' experiences. The scale can be used to explore relationships between hard-life experiences and various variables, providing essential measurements relevant to health, mental states, and decision-making processes in economic and social contexts.

The paper consists of several sections. The literature review and theoretical framework critically examine hard-life experiences and relevant theories. The research methodology focuses on scale development and data collection. In the results and discussion section, findings from the scale validation process are presented and discussed. The conclusion summarizes contributions, acknowledges limitations, and highlights the scale's importance for future research on hard-life experiences.

2. Literature review and theoretical framework

2.1 Hard-life experience

The role of life experiences, stemming from diverse life events, has garnered significant attention across various fields, such as psychology, health, behavior, and organizational decision-making.

For example, in the health research area, life events are found to have a relationship to physical illness (Dohrenwend and Dohrenwend, 1974b), the seriousness of chronic disease (Wyler *et al.*, 1971), psychiatric symptomatology (Dekker and Webb, 1974; Paykel *et al.*, 1969), depressive symptoms (Tausig, 1982), and serves as an essential yet insufficient factor in causing illness and partially contributes to the timing of disease onset (Anson *et al.*, 1990). In the realm of psychology, the suffering caused by life events could trigger compassion in organizations (Lilius *et al.*, 2008) and be a part of an individual past (Caputo *et al.*, 2017), which influences the mental states of the owner-manager (Kaeshage *et al.*, 2014; Ortiz-Avram *et al.*, 2018; Williams and Schaefer, 2013). In the area of cognition, intention, and behavior in business, Dimov (2010) and Ulvenblad *et al.* (2013) stress that awareness of the presence of particular entrepreneurial opportunities mainly stems from either education or life experience. At the same time, life events related to business behavior in adolescence have a positive correlation to entrepreneurial personality (measured in adulthood) (Obschonka *et al.*, 2010).

Life experiences were first mentioned by listing the loss, gain, and ambiguous events (Holmes and Rahe, 1967; Dohrenwend, 1973b; Anson *et al.*, 1990) or the change and undesirability events (Mueller *et al.*, 1977; Sarason *et al.*, 1978) in a person's life. Line literature later emerged by the only focus on undesirable life events (Davis and Mckearney, 2003; Lilius *et al.*, 2008; Bonanno, 2004) because they had a more significant impact on research (Dohrenwend, 1973b; Mueller *et al.*, 1977; Sarason *et al.*, 1978). To describe each individual's experience in terms of undesirability, Dohrenwend (1973b) assigned each loss event to a score of one to compute a total score, while Holmes and Rahe (1967) use the social readjustment ratings to collect a series of life events based on their relative degrees of impact. Besides, there is evidence that the items in the scale may have internal structure, and it is worthy of rebuilding and elucidation (Pugh *et al.*, 1971; Rahe *et al.*, 1971; Ruch, 1977; Ruch and Holmes, 1971; Skinner and Lei, 1980). However, there is no internal evaluation of items to confirm the internal statistical properties of the life events scale, such as factor analysis. The scale, therefore, would consist of a collection of statistically unrelated items (Tausig, 1982).

In addition, hard-life experience includes undesirable life events or negative life changes that have a significant impact on psychological status (Mueller *et al.*, 1977), stressfulness (Sarason *et al.*, 1978), compassion at work (Lilius *et al.*, 2008), and psychological resilience in entrepreneurship (Admed *et al.*, 2022). Mueller *et al.* (1977) showed that only undesirable life events were related more strongly to impairment of psychological status than desirable life events. Life stress is most accurately conceptualized as negative life changes rather than positive ones (Sarason *et al.*, 1978). The accumulation of previous hardship experiences is the life database to encourage the development of the emotional and cognitive factors to contribute abilities to identify, resilience, cope, and handle current hardships (Ahmed *et al.*, 2022). Therefore, researching hard-life experience scales was built based on the undesirable events of individuals' lifetime.

Besides, the utilization of longitudinal studies allows for a more comprehensive consideration of the contextual factors and personal characteristics that shape individuals'

identity work (Carollo and Guerci, 2017). This is exemplified by previous research studies that concentrated on smaller sample size (Sims, 2003; Phillips, 2013; Nyberg and Sveningsson, 2014). Given the inherent diachronic nature of identity as a phenomenon that unfolds over time (Ybema *et al.*, 2009), the cross-sectional approach can limit our understanding of sustainability managers' identity construction that is affected throughout the life course (Carollo and Guerci, 2017). Hence, longitudinal studies of the accumulation of previous life experiences over time are necessary to contribute to constituting an individual comprehensive cognitive map, which was also proved in the sustainable decision-making of entrepreneurs (Munoz, 2018).

In the literature related to hard-life experiences in many areas, such as psychology, health, behavior, and decision-making of individuals in organizations, most studies are implemented by interviews for qualitative approaches. Researching longitudinal hardship in the past is a crucial dimension that needs to be emphasized in developing measurement (Carollo and Guerci, 2017; Costanza *et al.*, 2012; Obschonka *et al.*, 2010). The conduct of a hard-life experience scale adopting a longitudinal perspective creates an opportunity for future research to be easier adjusted by numerical algorithms to help more contextual elements in the past that influence individuals' identity work (Carollo and Guerci, 2017). This has meaning in many research areas of psychology, health, behavior, and decision-making of individuals in organizations, especially to the research object of business owners, crucial managers, or entrepreneurs called key leaders. Furthermore, the key leaders play a principal role in operating businesses by running their strategic planning that can impact markets or industries and interact with economic activities (Stewart *et al.*, 1999). Therefore, the topics around business owners, crucial managers, or entrepreneurs are worthy of research in many aspects (Brockhaus, 1988).

2.2 Conceptual considerations

The differences between people at the workplace tend to exist based on a personal perspective of the hardship events, which are the personal historical life factors in a meta-analysis (Costanza *et al.*, 2012). Individual lives are influenced by their ever-changing historical context, and concepts of human development should apply to processes across the lifespan (Elder, 1998). For example, all work and personal private life events are significant to the orientation of business managers (Carollo and Guerci, 2017). Prior adversity experiences are one of the antecedents of psychological resilience in entrepreneurship in a systematic review of entrepreneurship scholarship (Ahmed *et al.*, 2022). The concept of hard-life experience is considered based on the adoption as below.

First, hard-life experiences were presented through undesirable life events. Those events are characterized as negative or 'stressful' in the conventional sense, indicating their social undesirability (Homes and Rahe, 1967). The undesirability of an event is generally assessed by groups of independent raters, giving these assessments an objective character. Most researchers investigating the importance of the desirability or undesirability dimension have chosen the definition using a predetermined classification of judges independent of the

subjects, as done in earlier studies (Dohrenwend, 1973b; Vinokur and Selzer, 1973). This assessment may not be strictly accurate in the subjective experience of respondents. For instance, divorce is objectively defined as undesirable, but for some individuals, experiencing the event of divorce may be a liberating experience, evaluated positively (Tausig, 1982). This study also applies the predetermined classification of judges to determine undesirable life events.

Second, a historical aspect of hard-life experience measurement is reflected by psychological distress through individuals' memory and characteristics. Hoch and Deighton (1989) showed that drawing from individuals' past experiences as a reliable source of information elicits elevated levels of motivation and involvement, as individuals perceive these recollected experiences to be highly credible. The impact of life events on each individual is different depending on the degree of their perceived control over events (Sarason *et al.*, 1978). The distress of undesirable life events differs from person to person, depending on their characteristics (Dohrenwend and Dohrenwend, 1974a). For instance, moderate life changes can have a significant impact on certain individuals, while others may be minimally affected even by considerable changes. Lazarus and Folkman (1984) indicated that rather than trying to quantify the relevant dimensions of needs and resources objectively (e.g., in the case of hard-life experiences), subjective measures attempt to assess the psychological sense of the disparity between needs and resources are more essential.

Third, we predicted that the chronic and periodic nature of hard-life experiences could cause separation when constructing measurements of hard-life experiences. Bonanno's (2012) research introduced concepts including chronic adversity in children and acute life events. A field experiment shows that the impacts of both chronic and periodic constraints have different psychological implications (Venugopal *et al.*, 2015). Chronic and periodic characteristics of hardship should also be considered in hard-life experience scales (Barrera *et al.*, 2001; Venugopal *et al.*, 2015; Bonanno, 2012). This study considers chronic adversity in children and acute life events can create distinct properties of hard-life experience scales; we can note to examine the convergent or discriminant meaningful clusters of items that are split in measurements.

3. Research methodology

3.1 Scale development

A multi-staged development study was conducted to create a measurement for hard-life experiences (Figure 1). A systematic review of relevant items was conducted to establish the scales. Then, an interview stage was implemented to assess item conformity and properties. To ensure measurement reliabilities, guidelines from Anderson and Gerbing (1988) were followed, along with referencing previous scale development studies by Hung and Petrick (2010) and Hosany and Gilbert (2009).

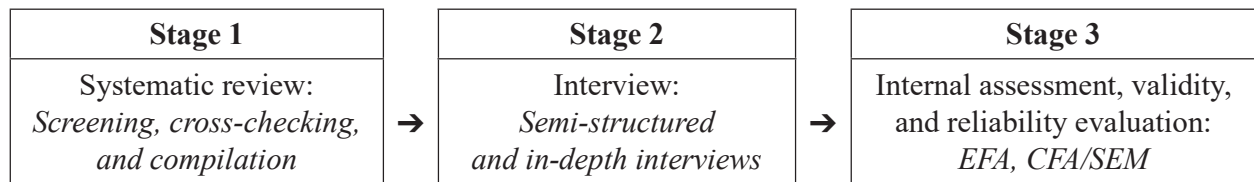


Figure 1. The procedure of scale development

Source: Authors' suggestion

In Stage 1, a systematic review was conducted by searching for relevant articles related to life experiences. Common themes were identified in measuring life experiences from previous studies and were utilized to develop the items for the hard-life experience scales. Second, a supplementary exploratory study was carried out to enhance further the validity of the items identified in the systematic review stage. During Stage 2, hard-life experiences items were investigated using semi-structured and in-depth interviews. Individual interviews lasting approximately 30 minutes each were conducted by phone to explore sensitive topics concerning the private personal lives of five key leaders. Research on business owners, crucial managers, and entrepreneurs is significant due to their principal roles in business operations, strategic planning, and impact on markets, industries, and economic activities (Brockhaus, 1988; Stewart *et al.*, 1999).

Table 1. Considered items of hard-life experience measurement

Item	Content	Sources
Death of a loved one	Death of spouse, close family member, close friend, colleague, loved one, child or other family member	Holmes and Rahe (1967); Mueller <i>et al.</i> (1977); Lilius <i>et al.</i> (2008); Dohrenwend (1973b); Thoits (1981)
Major family or personal incidents	Separation; divorce; arguments with spouse; family or personal issues; other broken love relationship	
Serious illness or injury of oneself or a loved one	Serious illness or injury of oneself or a loved one; onset of chronic illness or permanent disability; major accident requiring two weeks of hospitalization or more	
Business failure	Business failed	Dohrenwend (1973b)
Loss of a large amount of money	A significant change in the financial state	Holmes and Rahe (1967)
Spouse's occupational status decreases	Spouse's occupational status decreases	Thoits (1981)
Unfinished school	Ceasing formal schooling	Holmes and Rahe (1967)
Poor family	Corrosive socioeconomic circumstances (e.g., poverty); childhood poverty	Bonanno (2012); Elder (1998)
Long-term abusive relationships	Long-term abusive relationships	Bonanno (2012)
Poor hometown	Historical place	Elder (1998)

Source: Authors' compilation

Finally, quantitative analyses in Stage 3 were employed to assess internal assessment, validity, and reliability, including Cronbach's Alpha, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA), being a structural equation modeling (SEM) category. Based on the findings from the previous two stages (as shown in Figure 1), a questionnaire comprising nine items was created to assess hard-life experiences. Business owners, managers, and entrepreneurs rated their feelings towards each adversity experience using a 7-point Likert scale, ranging from 1 (little distress) to 7 (extremely distressful). Furthermore, EFA was utilized to explore latent factors, and CFA (and SEM in general) verified the constructed factors based on the theoretical framework.

3.2 Data collection

We empirically evaluated our instrument using data from Vietnamese key leaders. We initially selected five individuals with adversarial life experience from the business community for interviews. Later, we randomly selected over 300 key leaders, including business owners, managers, and entrepreneurs, for surveys. Online and offline interviews and surveys were conducted across various industries and firms in October 2022. Participants were contacted via phone and social networks, and interviews were scheduled individually. Survey instructions were sent via link, with two reminders given to non-respondents at each interval of five days. The participants were asked to recall their experiences with nine hard-life events and evaluate them on a 7-point Likert scale ranging from 1 (little distress) to 7 (extremely distressful). Most participants were male (71.8%), with fewer female and unspecified participants (27.5% and 0.7%, respectively). The respondents, who were business owners, crucial managers, and entrepreneurs, ranged in age from 27 to 65. We obtained 149 valid questionnaires, resulting in a response rate of 49.67%. To ensure commitment, we provided business networking opportunities to participants, offering relevant contacts. This partnership aims to support participants in future business endeavors and is built on trust and reputation.

Furthermore, the sample size meets the reliability requirements for conducting additional analysis steps (Hair *et al.*, 2014). They recommend a minimum sample size of 50 for conducting EFA, preferably 100 or more. Additionally, retrospective information is supported to be reliable and valid because it allows for ratings, by respondents themselves, of the hard-life experiences' distressful levels based on the following grounds. First, the level of motivation and involvement is high when information is drawn from individuals' past experiences; simultaneously, individuals perceive their recalled past experiences as highly credible (Hoch and Deighton, 1989). Second, such factual and relatively broad life-history data generally appears reliable and valid (Rutter *et al.*, 1998). Third, scales tapping at behavior during adolescence have been successfully employed in other cross-sectional and longitudinal studies on adult entrepreneurs, with very similar results (Schmitt-Rodermund, 2004, 2007; Zhang and Arvey, 2009).

4. Results and discussion

4.1 Purification and separation of measurement scale

We first conducted a systematic review by searching for articles with keywords like “life experience, life event, measurement”, resulting in 685,000 search results. After selecting 30 relevant articles with the most related keywords, we analyzed their content to identify common points about measuring life experiences through adversity or traumatic events. Loss, traumatic experiences, and negative events throughout a person's lifetime have been shown to significantly impact individuals (Vinokur and Selze, 1975; Mueller *et al.*, 1977; Sarason *et al.*, 1978; Tausig, 1982; Anson *et al.*, 1990; Davis and McKearney, 2003; Bonanno, 2004; Lilius *et al.*, 2008; Seery *et al.*, 2010; Bonanno, 2012; Venugopal *et al.*, 2015; Corner *et al.*, 2017). Additionally, we found seven articles directly associated with life experience or accumulated life events, which contributed to constructing the items for the hard-life experience scales. To form the measurement scale for assessing hard-life experiences, a total of 10 items were aggregated to ensure a uniform adjustment of undesirable events from 7 studies and avoid duplication (see Table 1). For example, the death of a loved one implies the loss of a spouse, a close family member, or a close friend (Holmes and Rahe, 1967; Mueller *et al.*, 1977; Thoits, 1981).

Second, during the semi-structured interviews, we delved into each of the ten items related to the respondents' life experiences and then engaged in in-depth discussions. The respondents shared life stories, describing the impact of hard-life events on challenging situations and even traumatic feelings. Additionally, they provided feedback on the suitability and relevance of the ten items in Table 1 for the hard-life experience scales. The main objectives of this stage were to identify relevant adversity experiences within their business context and to ensure the content validity of the predetermined construct domains based on the literature review.

Two issues were identified during the content analysis of responses, shaping the subsequent steps in constructing the hard-life experience scales. Firstly, the item related to a spouse's occupational status decrease was deemed unsuitable. Business owners or individuals holding significant roles in their companies often provide financial support for multiple families, making this item irrelevant to their experiences. Consequently, this item was removed from the measurements. The remaining nine items in Table 1 were confirmed as appropriate contributors to the hard-life experience scales. Then, undesirable events were categorized as chronic adversity in childhood and short-lived events (Bonanno, 2012), which is important for predicting convergent and discriminant properties in factor analysis. Unfinished school, representing the distress of dropping out mid-way through childhood or adolescence, aligns with chronic adversity due to its long-lasting impact on education and prospects. Other items showed consensus on their classification as chronic adversity or short-lived events, consistent with existing literature. Respondents highlighted the differing impacts of chronic and periodic constraints on individuals' psychological and cognitive reactions (Venugopal *et al.*, 2015). Besides unfinished school, poor family, long-term abusive relationships, and poor hometown belong to chronic childhood adversity (Bonanno 2012; Elder 1998; Venugopal *et al.*, 2015). The remaining items, namely death of a loved one, major family or personal incidents, serious

illness or injury, business failure, and loss of a large amount of money, are short-lived or acute events (Bonanno, 2012), showing their impact within about one year (Dohrenwend, 1973b; Vinokur and Selze, 1975; Sarason *et al.*, 1978; Tausig, 1982; Mueller *et al.*, 1977; Anson *et al.*, 1990; Lilius *et al.*, 2008). These considerations are important for predicting the convergent and discriminant properties of the scales in factor analysis.

Finally, descriptive statistics of the scale items were examined before assessing the reliability and validity of the hard-life experience measurement. One more item, “long-term abusive relationships”, was eliminated due to limited observations and a narrow response range (1 to 7). Two statistical procedures were conducted to ensure the deleted items had minimal impact on the scale. First, removing them only slightly affected Cronbach's Alpha value, increasing from 0.734 to 0.732. Second, a scale purification procedure was implemented based on item-to-total correlations (Kim *et al.*, 2012; Wang *et al.*, 2007). Items poorly correlated (*r* values less than 0.3) with the total score were removed (Nunnally and Bernstein, 1994; Cristobal *et al.*, 2007). This procedure resulted in eight items, out of the original ten, being retained. The 8-item scale demonstrated good internal consistency reliability with Cronbach's Alpha value of 0.732, surpassing the widely accepted threshold of 0.7 (Delamere, 1998; Lankford and Howard, 1994; Hair *et al.*, 2006).

Table 2. Result of orthogonal rotation method

Code	Item	Components of hard-life experiences	
		Chronicity	Acuity
HL2	Poor family	0.841	
HL3	Unfinished school	0.804	
HL1	Poor hometown	0.792	
HL7	Serious illness or injury of oneself or a loved one		0.770
HL9	Major family or personal incidents		0.670
HL6	Business failure		0.636
HL8	Death of a loved one		0.603
HL10	Loss of a large amount of money		0.544

Source: Authors' calculation

EFA was conducted on the eight retained items using orthogonal (VARIMAX) rotation (Floyd and Widaman, 1995; Hair *et al.*, 2014). The appropriateness of the analysis was confirmed by the Bartlett's test of sphericity and a KMO measure of sampling adequacy of 0.717 (Kaiser, 1974). The factor loadings were examined, and all items with *r* values above 0.5 were retained (Floyd and Widaman, 1995; Hair *et al.*, 2014). The analysis revealed two distinct components, aligning with the assumption that chronic adversity and acute life events are related yet distinct (Bonanno, 2012). The resulting measurements were two sub-scales:

chronic experiences, focusing on trouble during childhood and adolescence, and acute hard-life experiences, focusing on acute life events.

4.2 Scale validation

Cronbach's Alpha was used to assess the reliability of the scales of hard-life experiences (Delamere, 1998; Lankford and Howard, 1994; Hair *et al.*, 2006), followed by CFA using the covariance matrix to verify the factor structure identified from the previous EFA using SPSS. The Cronbach's Alpha values for chronic and acute hard-life experiences were 0.776 and 0.679, respectively, which fall within the acceptable range of 0.6 to 0.8, as stated by Hajjar (2018) and Wim *et al.* (2008).

The CFA results interpret the overall fit of the model, which involved the 3-item scale for chronic experiences and the 5-item scale for acute experiences, demonstrating satisfactory reliability. The overall model fit was evaluated statistically by the Chi-square test and heuristically using several goodness-of-fit statistics through CFA/SEM analysis. These statistics include the Chi-square to the degrees of freedom ratio (i.e., χ^2/df), the comparative fit index (CFI), the goodness of fit index (GFI), the root mean square error of approximation (RMSEA) (Hu and Bentler, 1999; Hair *et al.*, 2010), and the p-value of close fit (PCLOSE) (Hu and Bentler, 1999). Results of the CFA showed that the measurement model fit the data very well. The ratio of the χ^2 to the degrees of freedom (χ^2/df is 1.844) and other commonly used goodness-of-fit indices (CFI is 0.939, GFI is 0.944, RMSEA is 0.076, and PCLOSE is 0.135) were in line with the established good criteria (Bentler, 1992; Hu and Bentler, 1999; Hair *et al.*, 2010).

The reliability of the hard-life experience scale is then analyzed by calculating composite reliability estimates. As shown in Table 3, the composite reliability estimates of chronic and acute hard-life experience scales are respectively 0.788 and 0.686, indicating a good internal consistency (Hair *et al.*, 1998) and an acceptable internal consistency Fornell and Larcker (1981) of multiple indicators for construct in the model.

Table 3. Cronbach's Alpha and CFA results

Measurement	Composite Reliabilities	AVE	MSV	Cronbach's alpha
Chronic hard-life experience	0.788	0.558	0.236	0.776
Acute hard-life experience	0.686	0.311	0.236	0.679

Source: Authors' calculation

Subsequently, the following step involved evaluating both convergent and discriminant validity. Convergent validity was assessed by checking that all factor loadings are greater than 0.5 (Hair *et al.*, 2006), with all probabilities being significant at 0.001. The factor loadings, ranging from 0.572 to 0.951, indicated an acceptable convergent validity of factor loading values. Table 3 presents the values of average variance extracted from the chronic hard-life experience scale greater than 0.558 (Hair *et al.*, 2018). The values of average variance extracted can be less than 0.5 in case composite reliability is higher than 0.6; the convergent

validity of the construct is still adequate (Fornell and Larcker, 1981; Lam, 2012). Therefore, the values of average variance extracted from the adult hard-life experience scale are less than 0.311 in case composite reliability is 0.686, which can be accepted. Thus, the convergent validity of the chronic and acute hard-life experience measurements was confirmed. The discriminant validity of the hard-life experience measurements was investigated following Hair *et al.* (2010, 2016) suggestion. According to them, the AVE must exceed the maximum shared variance. As observed in Table 3, the estimated values of Hair *et al.* (2010, 2016) AVE were greater than the maximum shared variance (MSV), performed the discriminant validity of the hard-life experience measurements (Hair *et al.*, 2010; 2016). In summary, the evaluation of the measurement model provided robust evidence supporting the reliability and validity of the chronic hard-life experience measurement and sufficient evidence for the acute hard-life experience measurement.

4.3 Discussion

Hardship in the past of individuals is a large concept that could include many sub-scales. We first discovered two sub-scales, chronic and acute hard-life experiences, to measure key leaders' hardship during their lifetime. This separation, according to the distinguishing characteristics between chronic adversity in children and acute life events as we predicted the same as Bonanno's (2012) explanation. The chronic hard-life experience scale has three items, including poor family, unfinished school, and poor hometown, focused on chronic adversity when individuals were a child or adolescents. The acute hard-life experience scale has five items, including serious illness or injury of oneself or a loved one, major family or personal incidents, business failure, death of a loved one, and loss of a large amount of money, focused on the acute life events of key leaders. Besides, the adversities in childhood presented a level of distress less significant than those in adulthood. The item of serious illness or injury of oneself or a loved one was the biggest distress, followed by business failure and the death of a loved one. Major family or personal incidents, including big controversy, separation, and divorce, were the least distressful among adversities in adulthood of the surveyed respondents.

Furthermore, various methods have been employed to assess and rate life events, such as assigning scores to loss events (Dohrenwend, 1973b) or using social readjustment ratings to determine their relative impact (Holmes and Rahe, 1967). Surprisingly, prior research has not focused on developing a scale for internal assessment, validity, and reliability evaluation for life events. However, this study gives special attention to internal review, validity, and reliability evaluation to create a comprehensive scale for assessing hard-life experiences from a psychological perspective.

Additionally, similarities and differences exist between the items of the developed scales and previous studies' concepts. The items were categorized comprising similarities of previous research's undesirable life events such as major family or personal incidents (Holmes and Rahe, 1967; Seery *et al.*, 2010), poor family (Barrera *et al.*, 2001; Venugopal *et al.*, 2015; Bonanno, 2012), serious illness, and death of a loved one (Vinokur and Selze, 1975; Seery *et al.*, 2010), business failure (Ulvenblad *et al.*, 2012; Corner *et al.*, 2017). The newly added items that have

significant meaning are an unfinished school, a poor hometown, and the loss of a large amount of money found from interviews. We evaluated these new items before they were added to the scales from practical judgment. We assume that not everyone has gone through the poor hometown experience, and it could emphasize more chronic hardship of an individual's childhood at the same time. For key leaders, the spirit of learning is extremely important; therefore, unfinished school because of a difficult life could be a distressful experience. This has also been demonstrated through the statements of the interview participants. Loss of large amounts of money is a hard-life event more inclusive than the events related to small financial shocks in previous studies. The situation of unexpectedly losing a large amount of money was presented as a sudden and highly destructive shock to the experiencing individual (e.g., lost money through fraud, theft, fire), but the difficult financial situations can be predicted by economic and labor markets (Holmes and Rahe, 1967; Seery *et al.*, 2010).

By incorporating the concept of experience escapes with hard-life experiences, this study could identify time factors that enhance one's memorability of the experiences of key leaders. As stated by O'Dell and Billing (2005), experiences possess an inherently personal nature and are rooted in material circumstances that can be subject to distortion through various means. Accordingly, it becomes imperative to identify and measure the specific nature of the feelings and/or experiences retained within the memories of key leaders at specific moments in time and space. Therefore, research that compares the distressing memories of key leaders at each stage of the experience would provide a valuable contribution to the literature.

5. Conclusion

The findings of this study have significant implications for academic research, particularly in the realm of experiences among business owners, crucial managers, and entrepreneurs. One notable contribution of this study is the introduction of a noteworthy benchmark that adds to the expanding body of literature in this area. This research holds particular significance as it represents the first survey investigation into the concept of hard-life experiences and the development of a corresponding scale, filling a gap in prior research. It establishes the representative issues of hard-life experiences related to the key leaders' lives. Due to the absence of prior research that has examined and operationalized the concept of hard-life experience, the findings of this study cannot be empirically compared to or substantiated by the existing body of literature. However, the eight hard-life events we identified as important representative issues of the key leader experience are highly likely to affect a person's memory and feelings related to hard-life experiences. Scholars can later use these scales to investigate relationships between hard-life experience factors and others by quantitative methods.

The results of this study can be valuable to the field of business in several ways. In an economic situation where key leaders are interested, being able to provide hard-life experience measurements is important as it relates to health, mental states (Kaesehage *et al.*, 2014; Ortiz-Avram *et al.*, 2018; Williams and Schaefer, 2013), psychology (Mueller *et al.*, 1977; Admed *et al.*, 2022), awareness (Sarason *et al.*, 1978; Dimov, 2010; Ulvenblad *et al.*, 2013), affection (Lilius *et al.*, 2008; Admed *et al.*, 2022), behavioral intentions (Obschonka *et al.*,

2010; Venugopal *et al.*, 2015) and decisions (Muñoz, 2018) in business of business owners, crucial managers and entrepreneurs. Policymakers and top managers can use this scale to learn about managerial personality profiles, which aim to improve positive health, mental states, psychology, awareness, affection, behavioral intentions, and decision-making of business owners, crucial managers, and entrepreneurs. A closer look at the key leader dimensions suggests that interventions such as education, policy, and managerial improvement should target both the individual and the context (Bandura, 1997). Besides, the interventions that can be designed to foster individual development should be implemented early in life. For example, supporting the idea that entrepreneurship can be promoted early in life (Obschonka *et al.*, 2010).

However, several limitations associated with the current study should be acknowledged. First, the data were collected using a random sampling of business owners, crucial managers, and entrepreneurs in Vietnam. Thus, the study's findings are inherently limited in their generalizability. It would be intriguing to explore whether data collected from various countries would yield similar measurements of hard-life experiences as those observed in this study. Another limitation of the present study is its restricted examination of situational and individual differences in hard-life events. To advance our understanding of hard-life experiences, future research should expand its scope to include other experiential factors that have not been addressed in this study. Second, this study eliminates an item of long-term abusive relationships because of the inadequate statistical properties. The reason is that the eliminated items had only a few observations in the sample size; therefore, it is impossible to completely determine whether these distress items are insignificant on the scale. This item may be meaningful in another target group when almost all key leaders experienced long-term abusive relationships. Third, it is undeniable that the assessment of the measurement model showed only sufficient evidence of reliability and validity of the acute hard-life experience measurement. The evidence is not strong for the acute hard-life experience scale. Therefore, it could be changed in some research contexts. A new overview could emerge after collecting enough results from future research that applied this measurement.

Moreover, in future research, there is an opportunity to investigate the impact of spatially defined factors on the recollection of hard-life experiences among key leaders, incorporating the concept of experience escapes. Experiences are inherently personal and have a tangible foundation that can be tied to intentionally designed environments (O'Dell and Billing, 2005). Identifying and measuring the essence of emotions and experiences that persist in memories within specific spaces is essential, as memories can undergo various distortions. Therefore, research that compares the distressed memories of key leaders in similar contexts and situations would provide a meaningful contribution in the future.

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