Theoretical Article https://doi.org/10.12973/ejper.6.3.147

European Journal of Psychology and Educational Research
Volume 6, Issue 3, 147 - 156.
ISSN: 2589-949X
https://www.ejper.com

Life Skills Training: A Theoretical Proposal and Future Challenges

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Received: May 19, 2023 ▪ Revised: August 2, 2023 ▪ Accepted: August 25, 2023

Abstract: Life skills are personal resources that can be trained and applied in a specific situation and transferred to other contexts. The growing body of research has shown that intervention programs produce positive results in learning and transferring life skills. Nonetheless, there is a need to clarify the efficacy of life skills training, namely the theoretical background of life skills interventions and how to organize the intervention programs. This paper attempts to overcome these gaps of literature by providing a conceptualization of life skills into two axes: typology (cognitive to physical continuum) and function (personal and interpersonal). Also, it is presented a theoretical model of life skills training that establishes the stages and principles of life skills acquisition, the variables that influence training, and the measures and hypotheses that can be used to evaluate the efficacy of life skills training. In sum, we clarify the actual challenges of life skills training and provide indications on how to apply and evaluate the efficacy of the intervention.

Keywords: *Human development, life skills, life skills training, personal skills, psychological intervention.*

To cite this article: Gomes, A. R., Fontes, L. & Costa Figueiredo, A. C. (2023). Life skills training: a theoretical proposal and future challenges. *European Journal of Psychology and Educational Research*, *6*(3), 147-156. https://doi.org/10.12973/ejper.6.3.147

Introduction

Life skills are personal resources that can be trained and applied in a specific situation and transferred to other contexts (Gomes & Resende, 2020). They may be partially acquired unintentionally through acculturation derived from people's daily experiences in distinct life contexts; however, they may also be trained intentionally, a notion that has been the focus of scientific research since the beginning of the century (Lerner et al., 2003). This assumption is the basis of the concept of life skills training (LST), which aims to promote human development and focuses on human potential (Damon, 2004). Thus, current research has given a lot of attention to the development of theoretical explanations about how life skills are learned by individuals, particularly by young people (Bean et al., 2018; Camiré, 2022; Turnnidge et al., 2014) and led researchers and practitioners to study how life skills can be promoted and acquired by individuals (Bean et al., 2022; Gomes & Marques, 2013; Kramers et al., 2021; Quinaud et al., 2023; Singla et al., 2020). This growing body of literature reinforces the need to link theory to practice in order to understand the foundations of LST and the efficacy of life skills programs. However, literature is scarce regarding how theory is connected to practice, and even more important, how theory can inform the structure and application of intervention programs. In fact, programs should be evaluated for their efficacy with rigorous methodologies in order to understand how life skills are developed and transferred to distinct contexts of individuals included in the intervention programs. Additionally, life skills training should be developed according to a theoretical background that explains the mechanisms of how life skills are understood, how they develop and interconnect with each other, and how they should be organized in systematic programs of training. This paper addresses these topics by providing a theoretical proposal of life skills that has direct implications for intervention programs and systematic training in this domain by debating how life skills can be conceptualized and how LST can be structured. Finally, implications of life skills to theory, research, and practice are also discussed.

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Definition

Some authors define life skills in a broad perspective, such as S. Danish et al. (2004), who describe them as "those skills that enable individuals to succeed in the different environments in which they live, such as school, home and in their neighborhoods" (S. Danish et al., 2004, p. 40). Within the context of sports, Gould and Carson (2008a, p. 60) define life skills as "those internal personal assets, characteristics and skills such as goal setting, emotional control, self-esteem, and hard work ethic that can be facilitated or developed in sport and are transferred for use in non-sport settings". World Health Organization (2003) further outlines that life skills are skills people must have to cope with the demands and challenges of their daily lives, thereby increasing the possibility of leading healthy and productive lives. Finally, Jones (2020, p. 204) adds that life skills are "acquired through practice to help display competence in socially valuable tasks that predict similarly useful tasks within or across life domains". Although these definitions have some points in common, researchers have not yet reached an agreement on a single definition for life skills. For Gomes and Resende (2020, p. 204), life skills are "human potentialities that can be stimulated through systematic training or that are developed *implicitly* from people's everyday experiences, allowing human adaptation to events of change". This definition is based on three aspects:

(a) Life skills should be conceived within a broad perspective, including not only emotional, cognitive, and intellectual skills, but also motor and physical skills, because all of them are subject to human learning, and all of them contribute to how individuals respond to changing events (Gomes & Resende, 2020).

(b) Life skills can be learned by individuals through the participation in life skills intervention programs or through relevant life opportunities; however, research is still not clear about the differential effects of both contexts, although there are positive indications that life skills programs are a useful tool to learn and acquire relevant life skills (e.g., Nasheeda et al., 2019).

(c) Life skills are only considered as such if they increase the human capacity to adapt to changing events.

This last point is relevant since it indicates that the usefulness of life skills is important to explain the concept of adaptation to change: efforts undertaken by people when confronted with one or more events (internal or external) that produce a disruption in the usual pattern of human functioning; these efforts aim to restore or stimulate human functioning (Gomes, 2014). When life skills lead to activities (both cognitive and behavioural) that improve people's ability to deal with change, then human functioning can be improved; inversely, when efforts of human adaptation are ineffective this may indicate that the person does not possess the necessary life skill to deal with that specific event or may have applied a life skill that is not useful in the context. Thus, life skills are important since they contribute to human adaptation. Moreover, given that humans should frequently adapt to change throughout their lives, life skills are constantly applied daily in distinct life contexts.

Types of Life Skills

One of the first questions that arise when studying the topic of life skills and LST is which skills can be considered life skills and whether they can be organized into categories. S. Danish et al. (2004) proposed that life skills could be grouped into behavioural (communicating effectively with peers and adults), cognitive (making effective decisions), interpersonal (being assertive), intrapersonal (setting goals), and physical (e.g., assuming the right posture) skills. Although useful in its categorization, this approach may fail to capture broader classes of life skills and their impact on human functioning. The alternative can be organizing life skills by typology and functionality, as presented in Figure 1.

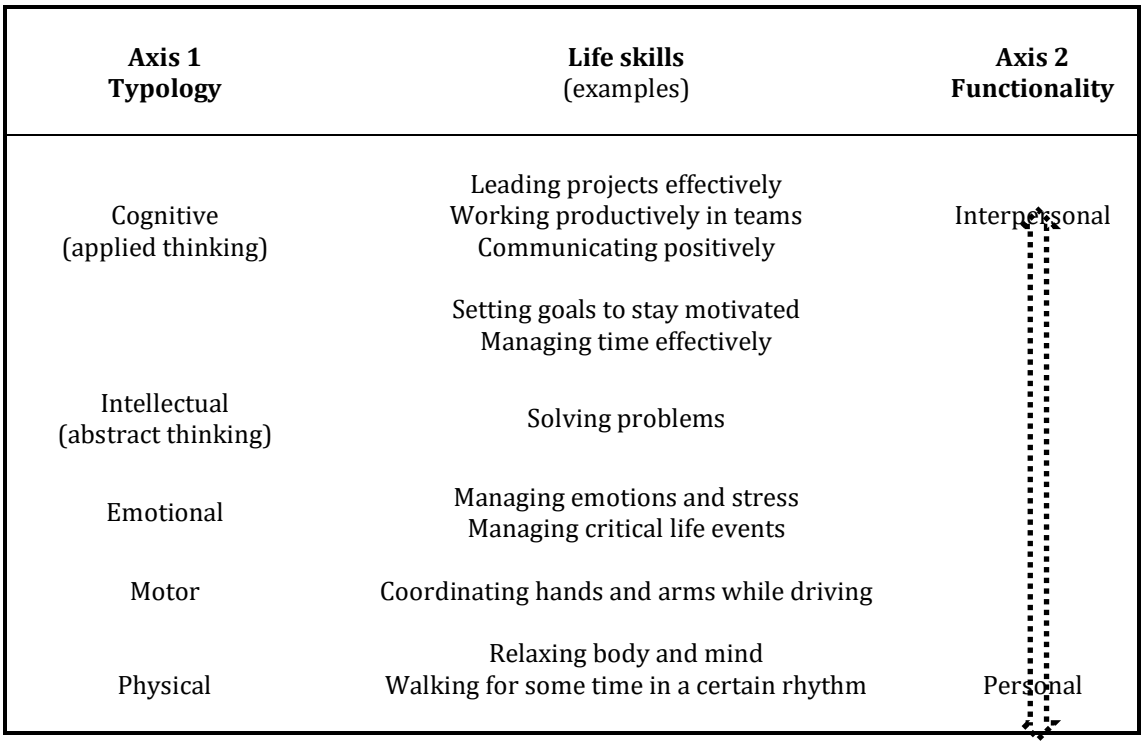

Figure 1. Typology and Functionality of Life Skills (Modified from Gomes & Resende, 2020)

Typology includes cognitive life skills related to applied thinking (such as setting goals to maintain or increase motivation), intellectual life skills related to abstract thinking (for instance, problem-solving), emotional life skills (e.g., managing stress), motor life skills related to executing simple and complex tasks (hand-eye coordination, for example), and physical life skills (such as running 5 km). Functionality, on the other hand, points to the life skill's applicability and use, ranging on a continuum from personal to interpersonal life skills. For example, staying motivated, organizing time, and managing stress are life skills typically, although not always, present on a personal level. On the other hand, communicating, leading others, and teamwork are life skills that are typically, though not always, applied on an interpersonal level. This organization in typology and functionality is useful when designing LST programs and in defining the measures to evaluate the expected impact on human functioning. For example, a researcher may organize the intervention program in a narrower perspective by focusing the intervention on intellectual life skills that stimulate personal functionality; another researcher may adopt a broader and interrelationship perspective by designing programs that stimulate both cognitive and motor life skills, by applying setting goals directed to physical activities that stimulate healthy life skills. Typology and functionality of life skills suggest a large number of skills that can be included in LST programs; thus, it becomes important to explain how life skills can be trained and acquired by participants, how they can be stimulated in the target participants, and how LST programs can be evaluated in terms of life skills.

Life Skills Efficacy Model

The Life Skills Efficacy Model (adapted from Gomes & Resende, 2020) proposes that the efficacy of LST depends on three factors: (a) LST programs should be designed in stages to stimulate the learning processes of life skills, (b) LST programs should include intervention techniques that capture the complexities of life skills in terms of integrality, graduality, and individuality; (c) LST programs should consider participants' internal and external variables (see Figure 2). These factors match three corresponding hypotheses reformulated from Gomes and Resende (2020) regarding the efficacy of LST programs:

(a) It is expected that human adaptation to changing events is stimulated if life skills learning follows four stages (i.e., motivation, learning, automatization, and generalization), compared to situations where these stages are not followed. This principle also applies to intervention programs, meaning that the efficacy of LST programs increases if these programs include the four stages of life skills acquisition compared to programs that do not incorporate these stages.

(b) It is expected the efficacy of intervention programs to increase when they are designed following the principles of life skill training (i.e., integrality, graduality, and individuality), compared to other programs that do not consider these principles.

(c) It is expected that the acquisition (and training) of life skills are influenced by individual's internal and external variables when facing changing events.

These three hypotheses should be tested by collecting data before (once) and after intervention (at least twice: at the end of the intervention and later in a follow-up period).

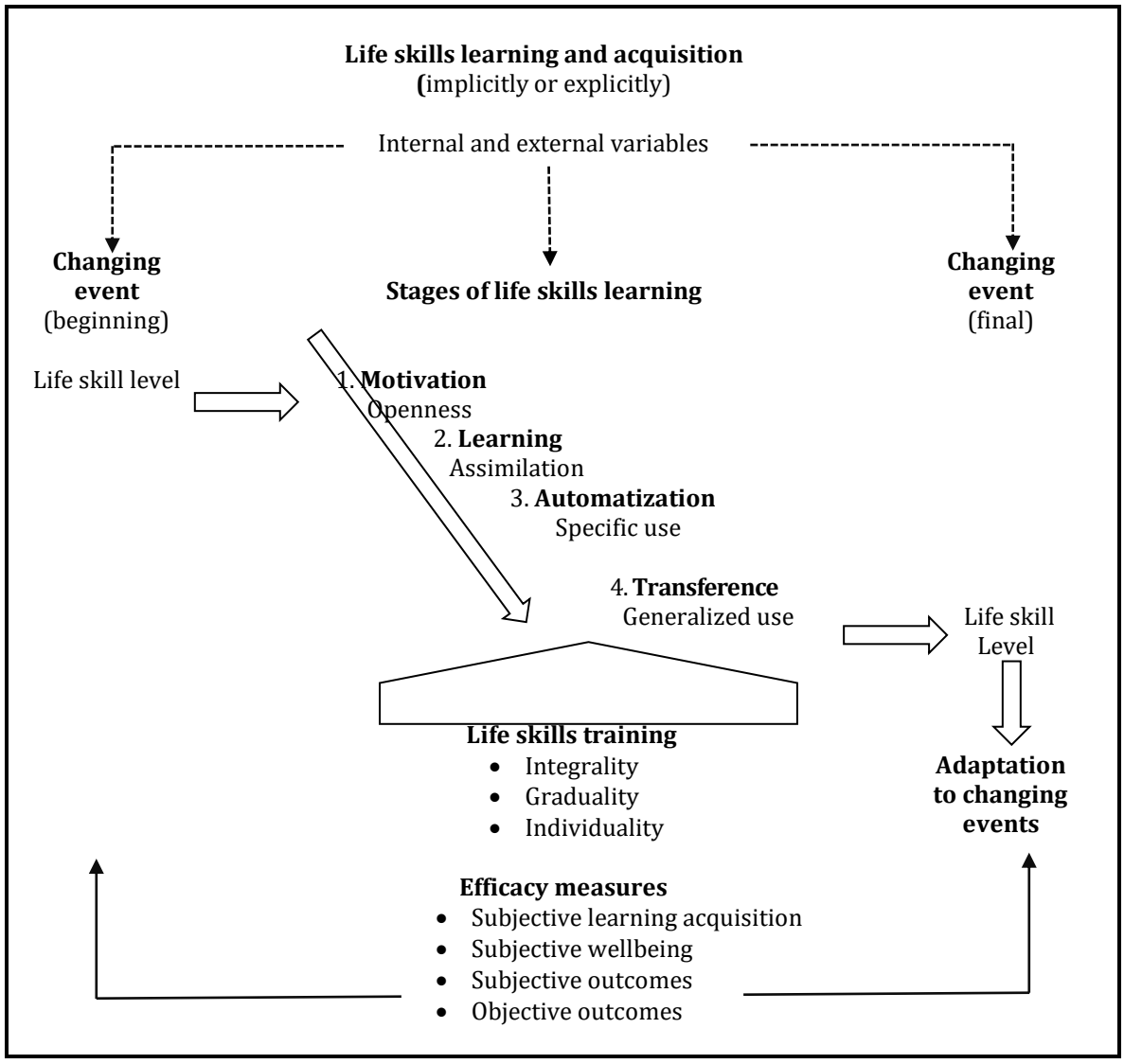

Figure 2. Life Skills Efficacy Model (Modified from Gomes & Resende, 2020)

Life Skills Acquisition Stages

Although life skills can be acquired without training when we successfully face changing events throughout our lives, they can be trained and improved through LST. To increase LST programs' efficacy, they should include activities that stimulate the four stages of life skills acquisition:

(1) Motivation. The main goal of this stage is to stimulate participants' interest in LST and in the training program itself (e.g., what are life skills, which life skills are included in the program, what are their typology and functionality, what are their applications in the participants' specific and general life contexts, major advantages of participating in the LST program, among other relevant topics).

(2) Learning. The main goal of this stage is to transmit information about the trained life skills and to internalize the life skill in each participant's mental and behavioural repertoire (e.g., what are the components and characteristics of the life skills included in the LST, what information and knowledge is particularly useful to internalize and become an expert in using the life skill, knowing the pertinent tasks implicated in the life skill, among other relevant topics).

(3) Automatization. The main goal of this stage is to stimulate the use of the life skill in the participants' specific life context (usually where the LST focuses). For example, if the LST program is implemented in a school context then the training may be applied using as examples the participants' classes and other school activities (e.g., learning stress management skills can be applied to situations where students take written tests and exams).

(4) Transference. The main goal of this stage is to stimulate the use of the life skill in different situations within the same life context or in more than one life context. Considering the previous example, participants may be

encouraged to use the life skill of stress management in other demanding student activities (e.g., during oral presentations) or when performing additional roles in their other life contexts (e.g., when dealing with a stressful interaction with parents or peers).

In sum, LST programs must progress along these four stages to stimulate interest, assimilation, specific use, and generalized use of life skills. For example, by failing to provide opportunities to generalize the life skills to several life contexts (last stage of LST), we may debilitate the effective learning of participants' life skills acquisition; in this way, the program may be an interesting experience to reflect on the specific applications of life skills, but it may be useless for the participants' daily lives and future adaptation to changing events.

Principles of Life Skills Training

When designing the program and during the phases described above, some principles should be kept in mind to maximize the training's efficacy. Specifically, one of the more challenging goals of LST is introducing the life skill into the participants' cognitive and behavioural repertoire. This process has a higher likelihood of success when LST programs follow three principles:

(a) Integrality principle of training. LST is more likely to lead to positive changes in participants if the intervention targets distinct types of human functioning (from physical to cognitive skills) and distinct levels of human functionality (from personal to interpersonal) (Gomes & Resende, 2020). This implies accepting that acquiring and applying life skills is part of a multifaceted experience that can involve motor, physical, emotional, cognitive, and intellectual skills that can be used at personal and interpersonal levels. The application of this principle to LST is critical, as it requires participants to have the opportunity to learn the life skills by the stimulation of different levels of human functioning. For example, if the life skill of motivation is implemented through learning goal setting, participants should learn the complexities and rules of establishing relevant and specific goals (stimulation of intellectual and cognitive typologies at personal level) but they can also realize activities where they have to explain and deal with potential obstacles that may arise to the achievement of their goal setting plan (stimulation of emotional typology at interpersonal level).

(b) Graduality principle of training. LST is more likely to positively impact human functioning by following the four stages of life skills acquisition (i.e., motivation, learning, automatization, and transference) (Gomes & Resende, 2020). As participants evolve through these stages, they improve their knowledge and ability, reaching a point where the skill becomes part of their automatic routines in multiple life contexts. Consequently, the graduality principle should be included in LST programs by implementing activities according to the four stages of training and life skills acquisition. Taking into consideration the same life skill of motivation through learning goal setting, participants should be exposed to motivational activities (e.g., videos and other multimedia elements about the advantages and benefits of setting personal goals), to learning activities (e.g., tests and quizzes about how to formulate correctly personal goals), to automatization (e.g., complete a goal setting plan in a specific life domain), and to transference (e.g., explain how the goal setting plan can impact distinct life domains and how to use the the life skill in future relevant activities).

(c) Individuality principle of training. LST is more likely to have a positive impact on human functioning when it takes into consideration the participants' specific development stage and skills (Gomes & Resende, 2020). Individuality is a key factor when life skills programs are implemented in groups, which is the most common type of training. Therefore, it is important that participants can simulate specific individualized activities until they acquire knowledge and the ability to integrate the life skill into their specific repertoires. LST programs need to be organized so that the activities and allotted time enable each participant to successfully progress along the four stages of life skills acquisition (motivation, learning, automatization, and transference). Considering once again the life skill of motivation through learning goal setting, participants should have the opportunity to not only see the general benefits of goal setting but they should be asked to formulate their own personal goals plan and to train how to deal with their specific obstacles to goal setting. In other words, the LST should not "only" provide general activities about the advantages of goal setting to the participants but should be designed in a way that allows all participants to understand, formulate, train, and applicate the goal setting ability to their own cases.

In sum, LST programs must incorporate the three principles of training to increase the quality of the activities included in the intervention program; certainly, not all activities included in the LST program have to respect all three principles, but it is critical that when considered together the proposed activities have integrality (by stimulating distinct levels of human functioning), graduality (by occurring along the four stages of life skills acquisition), and individuality (by targeting each individual in the intervention program).

Variables that Influence Life Skills Training

LST programs are influenced by several variables that can be categorized into internal and external variables. Therefore, both categories should be considered when designing, implementing, and evaluating the program to maximize its chances of success.

Internal variables encompass participants' demographics (e.g., age), physical and health conditions (e.g., injuries), psychological factors, and emotional abilities and traits (e.g., personality). External variables refer to the participants' situational contexts (e.g., role models' influence, support and influence from peers, life context opportunities for LST) and socioeconomic contexts (e.g., financial status). In sum, both sets of variables should be considered to explain the efficacy of LST programs because they can influence the effectiveness and the mechanisms of life skills acquisition.

Efficacy of Life Skills Training

One of the most relevant issues in the topic of LST is determining its efficacy, which will help to establish the relevance of training life skills in an individual's personal and social development. To evaluate the LST efficacy, several indicators should be considered and several measures can be used to give an exact overview of LST's effects on human functioning. We propose the use of at least four indicators to test the efficacy of LST programs:

(a) Subjective learning acquisition measures. They can be used to evaluate the acquisition of the skills included in the program and their use (e.g., an LST program aimed at motivation is expected to increase the participants' perception of their motivation).

(b) Subjective experiential measures of wellbeing. They can be used to evaluate the changes in participants' psychological constructs associated with the LST program (e.g., an LST program aimed at motivation is expected to improve the participant's satisfaction with life).

(c) Subjective outcome measures. They can be used to evaluate the participants' perceived changes in their functioning associated with the LST program (e.g., an LST program aimed at motivation is expected to increase the participants' perception regarding obtaining relevant personal goals).

(d) Objective outcome measures. They can be used to evaluate the effective changes in the participants' human functioning associated with the LST program (e.g., an LST program aimed at motivation is expected to improve the time participants dedicate to important tasks and the volume of tasks they execute).

It is beyond the scope of this paper to give specific examples of measures to use in the fours levels of efficacy of LST programs, but it is important to reinforce that measures can be directed to evaluate the subjective experience of participants (levels "A", "B", and "C", as described above), but it can also be collected the opinion of relevant persons about how participants progressed after the intervention, and it should be collected not only "subjective indicators" (i.e., the opinions of participants and relevant persons), but it should also be collected distinct "objective indicators" that can testify the effective changes and achievements assumed by the participants. This is very sensitive, due the need of diminish bias related to self-report measures (i..e, common method bias) and endogeneity (Antonakis et al., 2014). In sum, selecting the right measures to evaluate the LST's efficacy and adopting a broader perspective to analyse the impact produced by the intervention program is critical to advance scientific knowledge on life skills training; without credible data, life skills may remain a marginal area of reflection and intervention on the field of social sciences, most notably in psychology.

Life Skills Training: An Example

Designing life skills programs that follow the stages and principles of life skills is far from a simple task; however, it is an essential task. Figure 3 includes an example of stress management training provided in the Promotion of Positive Experiences in Children and Youth (PEP-CJ; Gomes, 2010). It can be observed that the five training sessions allowed participants to evolve along the four stages of life skills acquisition and that participants were exposed to the three principles of life skills training. This is essential to promote the acquisition and transference of life skills to multiple domains of human functioning.

This example can be spread to other life skills, since the stages and principles of life skills are considered as well as internal and external variables of participants are taking into consideration. This is the main advantage of the Life Skills Efficacy Model that provides a specific framework about how to organize LST programs. In other words, practitioners can establish the life skills training by dividing the program into four acquisition stages (i.e., motivation, learning, automatization, and transference) and by delivering activities that are according the principles of life skills training (i.e., integrality, graduality, and individuality). Finally, practitioners should make final adjustments according internal and external variables of participants. By acting in this way, LST programs can increase their consistency and internal validity, which allow to understand what variables can augment or diminish the efficacy of LST programs.

Life skill: stress management

Number of sessions: 5

Participants group: Over 10 years old

Goals

(a) Discriminate cognitive and emotional patterns (positive and negative)
(b) Understand the behavioral effects of cognitive and emotional patterns of functioning
(c) Promoting confidence in cognitive and emotional change regarding stressful situations
(d) Increase the ability to respond to negative stress situations
(e) Increase feelings of well-being and life satisfaction
(f) Promote feelings of personal efficacy in managing stressful situations

Session 1

Life Skills Acquisition Stages				Principles of Life Skills Training		
Motivation	Learning	Automatization	Transference	Integrality	Graduality	Individuality
X	X					X

Procedure

The session begins by presenting a case study of a student that feels high levels of stress in school exams. The case includes the negative and positive cycles of stress management. The case is related to a typical life situation for participants to garner their interest and attention (motivation). Participants have to find the differences between both cycles of stress management (learning).
The session progresses by asking participants to select a stressful situation that they found difficult to manage in the past. Then, they have to complete worksheets related to their negative and positive cycles of stress management (learning and individuality).

Session 2

Life Skills Acquisition Stages				Principles of Life Skills Training		
Motivation	Learning	Automatization	Transference	Integrality	Graduality	Individuality
X	X	X		X	X	X

Procedure

Participants share their cycles of stress management in small groups and discuss how their positive cycle can be improved (motivation, learning).
Participants are exposed to a role-play activity where they have to simulate their positive cycle of stress management while other participants assume the role of the negative cycle of stress management (automatization). Each participant has to assume the positive cycle of stress management (individuality), progress in their ability to manage stress (graduality), and they have to use communication skills to transmit and defend their positive cycle of stress management (integrality).

Sessions 3 and 4

Life Skills Acquisition Stages				Principles of Life Skills Training		
Motivation	Learning	Automatization	Transference	Integrality	Graduality	Individuality
X	X	X		X	X	X

Procedure

Participants have to define negative and positive cycles of stress management for a potential source of stress in the future. The same procedure as in Session 2 is followed to define and train the positive cycles of stress management. At the end of this session, the monitor delivers diaries for participants to register stress situations during the following days.

Session 5

Life Skills Acquisition Stages				Principles of Life Skills Training		
Motivation	Learning	Automatization	Transference	Integrality	Graduality	Individuality
			X		X	X

Procedure

Participants share their diaries by presenting stress situations they have faced since the last session and how they applied their stress management skills (transference, graduality, and individuality).

Figure 3. Life Skills Training: An Example (Source: Gomes, 2010)

Conclusion

Although our understanding of LST and all processes involved is still far from complete, the recent investment in LST research and implementation allows us to propose some implications for theory, research, and intervention within this topic.

For theory, it is vital to understand the processes of development and transfer of life skills to other contexts, namely whether these dynamics occur explicitly or implicitly. This will naturally have implications for designing and implementing successful LST programs. To achieve this, we should identify and describe which factors influence human behaviour, namely the context in which development occurs, and the family and peers that promote it (Holt & Neely, 2011; Lerner et al., 2015), as well as how these factors interact with each other. The model described in this work, stemming from several previous studies (e. g. Gomes, 2018), attempts to contribute to LST conceptualization by describing how programs should be designed, implemented, and tested. In sum, LST theories help to increase scientific knowledge on the topic and strongly influence the decision of which acquisition and transfer strategies are most effective in LST, thereby strengthening the research-action connection and providing useful practical implications.

For research, it is important to bridge the gap between theory and practice, by providing useful indications about how the theory explains the acquisition of life skills and the magnitude of change produced by LST programs; in fact, there are virtually no indications about the frequency and intensity of training needed to automatize participants' life skills (i.e., Dose-Response Effect of life skills training). Also, findings are scarce about how life skills impact participants' intellectual, cognitive, and behavioural repertoires after the intervention; this is quite surprising because life skills are indeed acquired by participants if they can use them for longer periods after ending the intervention. Thus, there is a lack of research on the transference of life skills to other contexts, even though this is central to the understanding of life skills and LST. Additionally, research should be based on rigorous methodological plans by adopting randomized control trials of groups (experimental and control) to test the efficacy of life skills training; only these approaches can undoubtedly inform if training is more effective than no training at all. Put simply, there is a need to design rigorous and methodical assessment protocols, preferably longitudinal, that can objectively evaluate the efficacy of LST programs. Moreover, researchers should adopt more objective measures of life skills efficacy, given the preponderance of self-report tools in most studies; in fact, relying exclusively on these tools hinders efficacy assessment. Consequently, more objective (e.g., behavioural) measures should be included, along with tools that measure the actual application of learned life skills to the participants' different life contexts. In sum, future research should focus on identifying and understanding the different ways humans develop life skills in different contexts and activities (Fraser-Thomas et al., 2005), and researchers should analyse which strategies should be trained and identify the individual, social, and contextual factors that influence this process (Gould & Carson, 2008b). Although research in LST has been growing in recent years, a huge potential remains to be explored; future studies should consider and overcome these limitations to better understand the factors that promote the efficacy of LST programs.

For practice, it is important to consider that there is a substantial number of LST programs that allows us to draw some conclusions regarding the acquisition and generalization of life skills. Programs such as Going for the Goal (GOAL; S. Danish et al., 1992a, 1992b), the Sports United to Promote Education and Recreation (SUPER; S. J. Danish et al., 2002), the First Tee Life Skills Educational Program (Weiss, 2006), along with the Portuguese Promotion of Positive Experiences in Children and Youth (PEP-CJ; Gomes, 2010) have demonstrated improvements in the life skills trained and a decrease in negative behaviours. However, these positive results still lack a consistent explanation of how these processes work and which variables are more relevant to the program's efficacy.

Given these data, and considering the theoretical indications already described, we recommend that LST programs include the following properties, to facilitate a rigorous evaluation of their efficacy:

(a) Collection of evaluation measures in at least three different moments (preferably, once before the intervention and twice after it – once immediately after LST and another at least three months later).

(b) Different measures must conclusively prove that the program led to substantial changes in the participants' functioning, at four levels: life skill acquisition applied to the participants' different life contexts; subjective experiential results (changes in the individuals' perception about themselves regarding the trained life skill); subjective performance results (participants' performance perception regarding the trained life skill in a given area or activity), and objective results, which reflect the actual changes in the individuals' performance in areas directly related to the LST.

(c) Characterization of the individual's internal and external variables, which combined predict LST motivation, learning, automatization, and transference.

(d) Regardless of the methodology chosen, it is important to follow the four stages of life skills acquisition (motivation, learning, automatization, and transference) to improve the training's efficacy when compared to programs that do not follow these stages.

In sum, LST has an undeniable potential to influence human adaptation, performance, and development. Consequently, in the future, researchers should focus on LST research, theory, and practice, especially regarding the processes and variables that influence LST programs in terms of their efficacy. Finally, LST has an enormous potential in stimulating human development and in promoting people's adaptation to the changes they face in different life contexts. In a world ever more globalized, we need several skills, at different times, to achieve positive levels of adaptation to the challenges (and constraints) we are exposed to. LST has, at its core, an absolute belief in human potential, and an ambition to

stimulate this potential to a level that allows people to generalize life skills to different situations of their daily lives. The analogy between globalization and life skills is quite enticing: local functioning (i.e., specific skills that each person has) with global impact (i.e., specific skills that impact various life tasks). Let us, therefore, invest in training life skills efficiently.

Limitations

This paper has provided indications on how to apply and evaluate the efficacy of the LST programs, contributing to promote the intentional development of life skills. Nonetheless, there is a need for new research on this theme, testing specifically whether this model holds across diverse cultural contexts and discussing potential cultural variations or implications.

Conflict of interest

The manuscript has never been published before and constitutes an original article. The author(s) declare that they have no competing interests.

Funding

This paper has the support of the Psychology Research Centre (CIPsi/UM) School of Psychology, University of Minho, supported by the Foundation for Science and Technology (FCT) through the Portuguese State Budget (UIDB/01662/2020).

Authorship Contribution Statement

Gomes: Conceptualization, writing the paper, supervision. Fontes: Literature review, writing the paper, editing/reviewing. Costa Figueiredo: Literature review, writing the paper, editing/reviewing.

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