

# Development, Validation and Reliability Assessment of Stress, Career Adaptability, and Career Resilience (C-A-RE) Module for University Support Staff in the Malaysian Sandwich Generation

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## ABSTRACT

The sandwich generation which is, individuals who are simultaneously caring for dependent children and ageing parents, face significant psychological, career, and economic challenges, particularly among university support staff in Malaysia. Despite the increasing recognition of these challenges, evidence-based interventions tailored for this population remain uncommon. The aim of this study was to develop and psychometrically evaluate the C-A-RE (Stress, Career Adaptability and Career Resilience) module, an integrated intervention targeting stress, career adaptability and career resilience among sandwich generation workers. The C-A-RE module was developed using the Sidek Module Development Model (SMDM), which incorporates theoretical foundations from Stress Appraisal and Coping Theory, Career Construction Theory and Career Motivation Theory focusing on career resilience frameworks. Content validity was assessed by an expert review of eight professionals and academics from the fields of counselling and psychology using the Content Validity Index (CVI) at both item (I-CVI) and scale (S-CVI/Ave) level. A pilot test was conducted with 17 university support staff with purposive sampling who participated in the full intervention and subsequently completed a structured questionnaire. Internal consistency was assessed using Cronbach's alpha coefficients. Content validity analysis revealed a high level of agreement between experts, with five of the six items achieving perfect I-CVI scores (1.00) and an overall S-CVI/Ave of 0.98, indicating excellent content validity. Reliability analysis revealed strong internal consistency across all activities, with Cronbach's alpha coefficients between 0.913 and 0.974 for the career guidance group activities and 0.927 for the overall module. To summarise, the C-A-RE module has a strong theoretical orientation, high content validity and reliability and is a promising intervention to support the specific needs of sandwich generation university support staff.

**Keywords:** Sandwich Generation, University Support Staff, C-A-RE Module, Stress, Career Adaptability, Career Resilience, Psychometric Properties

## INTRODUCTION

The “sandwich generation” describes individuals who, while maintaining employment, are simultaneously responsible for caring for both aging parents and dependent children. In Malaysia, this demographic is becoming increasingly prominent due to rising life expectancy, declining birth rates, and shifting family structures [1]. This dual role often results in elevated stress levels, which can negatively impact both mental health and job performance [2].

Beyond stress, two psychosocial constructs, career adaptability and career resilience are particularly salient for sandwich generation workers. Career adaptability refers to an individual's readiness and resources for coping with current and anticipated career-related tasks, transitions, and traumas, while career resilience describes the capacity to recover from setbacks and persist in the face of adversity [3], [4]. These constructs are critical for workers who must continuously balance evolving career demands with substantial family obligations. Empirical research suggests that low adaptability and resilience are associated with higher rates of burnout, job

dissatisfaction, and strained family relationships in dual-caregiving populations [5], [6]. The selection of these constructs is informed by their demonstrated importance in predicting both occupational and personal well-being among workers managing multiple caregiving roles.

Despite the growing prevalence and documented challenges of the sandwich generation in Malaysia, there remains a notable lack of structured, evidence-based interventions tailored to their specific psychosocial and developmental needs [7]. Existing programs fail to address the complex interplay between stress, career adaptability, and resilience, particularly within the context of university support staff. To address this gap, the C-A-RE Module was developed. This intervention is grounded in established theoretical frameworks, including Stress Appraisal and Coping Theory [8], Career Construction Theory [3], and Career Motivation Theory [9] further refine the Career Resilience Framework by Fourie & Van Vuuren [4], and is specifically tailored to the context of Malaysian university support staff.

This article outlines the systematic development, expert validation, and reliability assessment of the C-A-RE Module. The study employs a quantitative approach, incorporating module design, expert review, pilot testing, and psychometric analysis. By focusing on university support staff, the research aims to provide a rigorously developed and contextually relevant resource for counsellors, mental health practitioners, and organizations seeking to support the well-being and career sustainability of sandwich generation workers in Malaysian higher education.

## LITERATURE REVIEW

The sandwich generation comprises midlife adults who simultaneously care for dependent children and aging parents while maintaining full-time employment [10], [11]. This dual caregiving role introduces a complex interplay of psychological, career, and economic stressors that can profoundly impact individual well-being and career trajectories [12], [13]. In Malaysia, the phenomenon is especially pronounced among university support staff, where organizational demands intersect with genuinely rooted family expectations, often placing a disproportionate burden on sandwich generation workers [14]. National surveys and institutional reports highlight that the prevalence of sandwich generation workers in Malaysian public universities is rising, with significant implications for both employee welfare and institutional productivity [15], [1], [16].

Empirical research consistently demonstrates that sandwich generation workers experience higher levels of psychological distress compared to their non-sandwich peers [12], [2], [13], [17]. Longitudinal studies have found that these individuals are at increased risk for depressive symptoms, with depression often mediating the negative relationship between caregiving responsibilities and job satisfaction [18], [11]. For example, Turgeman-Lupo's work reveals persistent depressive symptoms among sandwich generation employees [17], while Shi and Jiang identify depression as a central factor undermining job satisfaction in this group [18]. In the Malaysian higher education context, these outcomes are exacerbated by limited institutional support and inflexible work arrangements [14], underscoring the necessity for targeted stress management interventions.

Career adaptability is defined as the capacity to adjust career-related behaviors and decisions in response to evolving personal and professional circumstances [19], [20]. For sandwich generation workers, adaptability is not merely a coping mechanism but a proactive skill set that enables alignment of career goals with changing life demands [22], [23]. International and Malaysian studies emphasize the importance of lifelong learning, meaning-making, and strategic career management such as role splitting and career planning as practical strategies for maintaining career engagement amidst caregiving interruptions [24]. However, the literature also notes that adaptability is often constrained by external factors, including organizational culture and support systems [3], [21].

Career resilience refers to the ability to recover from setbacks and persist in the face of adversity [25], [4]. Research highlights the role of organizational support, particularly family-supportive supervisory practices in fostering resilience and mitigating the negative effects of dual caregiving roles [26], [27]. Indeed, different contexts emphasise different aspects of resilience, depending on environmental demands, constraints and traditions [4], individual characteristics, temperament, intelligence, cognitive abilities, quality of childhood

interpersonal relationships, environmental factors, planning, self-determination, self-reflection, self-confidence and self-control [28]. Therefore, career resilience is strongly important for sandwich generation workers in order to remain positive as a worker, to cope with career responsibility, and to increase the chances of objective and subjective career success [29].

Effective supervisor training, flexible work arrangements, and participatory HR strategies have been shown to enhance work-life balance and promote a supportive organizational climate [30], [31]. Importantly, the normalization of caregiving discussions and the implementation of care-friendly policies are identified as key organizational resources for supporting sandwich generation workers [32], [17].

The development of intervention modules for sandwich generation workers is grounded in three complementary theoretical frameworks:

1. **Stress Appraisal and Coping Theory:** This framework underpins the stress management component by focusing on cognitive reinterpretation techniques that help workers view caregiving demands as manageable challenges, thereby enhancing self-efficacy and reducing psychological distress [8].
2. **Career Construction Theory:** Serving as the basis for career adaptability interventions, this theory emphasizes the dynamic process of career development and the importance of adaptability in navigating career transitions [19].
3. **Career Motivation Theory and the Career Resilience Framework:** These frameworks inform the resilience component by operationalizing resilience as behavioural adaptability and confidence-building, providing a foundation for targeted intervention strategies [9], [4].

A critical review of the literature indicates that these frameworks have been successfully applied in previous interventions with similar character of populations. However, there remains a need for empirical studies that evaluate the combined application of these theories within the Malaysian higher education context.

Despite the growing body of literature on the sandwich generation, significant gaps persist particularly regarding structured, evidence-based interventions tailored to the needs of university support staff in Malaysia [7]. Existing research often treats stress, adaptability, and resilience in isolation, without addressing their interconnections or the unique challenges faced by this demographic [17], [18].

C-A-RE module was developed to address these gaps by offering an integrated, theoretically grounded intervention. Its design is informed by validated scales and prior empirical findings, ensuring both conceptual coherence and practical relevance. By situating the module within the specific context of Malaysian public universities, the study responds directly to the documented needs and challenges of local sandwich generation workers [7], [24], [14].

## METHODOLOGY

The development of the C-A-RE Module was systematically guided by the Sidek Module Development Model (SMDM), a well-established framework for creating educational and psychological intervention modules in Malaysia [33]. The SMDM comprises two main phases:

### Phase I; Module Design Preparation:

This phase includes conducting a needs analysis, setting clear goals, developing content, and selecting appropriate materials. The SMDM has been successfully applied in previous interventions targeting Malaysian university staff and is particularly suitable for this study due to its structured, iterative approach that ensures contextual relevance and evidence-based content.

### Phase II; Module Testing and Evaluation:

This phase involves pilot testing the module, assessing content validity and reliability, and refining the module based on feedback [34], [35]. The model's emphasis on continuous evaluation and adaptation makes it well-suited for addressing the evolving needs of sandwich generation workers.

A panel of eight experts in counseling, psychology, and module development was consulted. Experts were selected for their experience with university staff and sandwich generation issues. They reviewed the draft module for content accuracy, relevance, and alignment with best practices using a structured questionnaire [33], [34]. Their feedback was incorporated to refine the module.

The module was structured into three submodules as shows in table 1, Stress, Career Adaptability, and Career Resilience. Content was developed using established, evidence-based strategies [3], [4], [8], [9]. For stress management this module incorporated cognitive-behavioural techniques and practical coping strategies [8]. Career Adaptability, included career construction activities and decision-making exercises [3]. And lastly, Career Resilience includes Focused on self-empowerment, narrative development, and networking skills [4], [9].

Table 1 Module content based on theory.

Theory	Module	Construct	Activities in the Module
Stress Appraisal and Coping Theory (Lazarus & Folkman, 1984)	Stress	Stress	1. Life Challenges 2. Coping Strategies
Career Construction Theory (CCT) (Mark Savickas, 2015)	Career Adaptability	(a) Concern (b) Control (c) Curiosity (d) Confidence	3. Planning 4. Decision Making 5. Self-exploration, career, and family 6. Problem Solving
Career Motivation Theory (London, M. 1983)	Career Resilience	(a) Belief in oneself (b) Disregard traditional sources of career success (c) Self-reliance (d) Receptivity of change	7. Self-empowerment journey 8. Creating my unique career story 9. Value of networking 10. Acceptance

## PILOT STUDY

The module was pilot tested with a purposive sampling of 17 sandwich generation university support staff from academic support, administration, library, and technical services. This sample size aligns with recommendations suggesting pilot studies may include between 10 and 30 participants to assess feasibility and preliminary outcomes [35]-[37]. Participants were selected based on the following inclusion criteria: (a) actively providing care for both aging parents and dependent children, (b) employed full-time as support staff, and (c) aged between 27 and 53 years (12 females, 5 males).

The pilot study was conducted as an actual career development intervention program, during which participants engaged in the complete set of module activities over the same duration and schedule planned for full implementation (see table 3). All activities were conducted in real-time, ensuring the feasibility of the intervention's timing and content. The program was delivered using a group guidance format, facilitated by a professional counsellor practitioner trained in career development interventions, who provided guidance and support throughout the sessions.

After completing the intervention, participants responded to a structured self-report questionnaire designed to assess the module's usability and reliability, as recommended by Sidek [33]. The questionnaire evaluated participants' agreement with the objectives in the activities using a 4-point Likert scale, where 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree.

Internal consistency of the questionnaire was evaluated using Cronbach's alpha [34], [38]. The pilot test also assessed the clarity of module content, effectiveness of delivery, and logistical feasibility. Results from the pilot informed further refinement of the module to enhance its clarity, relevance, and practical implementation.

## VALIDITY AND RELIABILITY

To rigorously assess the alignment of each activities with the theoretical constructs underpinning the C-A-RE module, a structured content validity process was implemented. Consistent with psychometric best practices, the Content Validity Index (CVI) was calculated at both the item level (I-CVI) and scale level (S-CVI) [34], [39]. This method provides a widely accepted measure of content validity than simple percentage agreement.

### Expert Panel Selection and Qualifications

Eight external experts were purposively selected based on their advanced expertise in counseling, psychology, and intervention module development, representing a cross-section of Malaysian higher education institutions. The experts comprised Deputy Chief Psychologists, Directors of Psychological Services, Heads of Counseling Services, and Registered Counsellors, each with 7 to 22 years of professional experience in their respective domains. This diversity ensured a well-rounded and authoritative evaluation of the module's content and structure. Notably, five experts were senior academic lecturers with specialization in counseling psychology, while the remaining three were experienced practitioners actively providing counseling services to university support staff. Their combined academic and clinical perspectives provided robust insight into the module's theoretical grounding, practical relevance, and feasibility of implementation within institutional settings.

### Instrument and Rating Process

The content validation instrument consisted of six clearly defined items, each mapped to a core construct of the module (e.g., relevance to the target population, clarity of objectives, appropriateness of activities, theoretical alignment, feasibility of implementation, and potential for impact). Each item was rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Experts were provided with operational definitions and rating guidelines to ensure consistency of interpretation [33].

### CVI Calculation and Interpretation

Content validity was quantitatively assessed using the Item-Level Content Validity Index (I-CVI) and Scale-Level Content Validity Index, Average method (S-CVI/Ave). For each item, the I-CVI was calculated as the proportion of experts who rated the item as either 4 (agree) or 5 (strongly agree) on a 5-point Likert scale. In accordance with established conventions [34], [39], expert ratings of 4 or 5 were dichotomized and assigned a value of 1.00, indicating agreement on content relevance. Ratings of 3 or below were assigned a value of 0, reflecting insufficient agreement. The S-CVI/Ave was then computed as the average of the I-CVI scores across all items, providing an overall index of scale-level content validity. As recommended in psychometric literature, an I-CVI of  $\geq 0.78$  for individual items and an S-CVI/Ave of  $\geq 0.80$  for the full instrument are considered acceptable benchmarks for establishing the content validity. These thresholds indicate that the instrument items are judged to be both relevant and representative of the construct being measured.

### Transparency and Replicability

The full content of the six-item questionnaire refers to table 2, including operational definitions, item description and the rating rubric, is provided during the validation process to facilitate independent evaluation and replication of the validation process, ensuring methodological transparency.

### Reliability Analysis: Internal Consistency

Participants evaluated the module's content and activity's objective using a structured questionnaire developed by the researcher based on each activities objectives, consist of 52 items in total, suggested by Sidek [33]. The tool rated on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). Data informed reliability analysis and guided further module refinement.

Internal consistency was assessed using Cronbach's alpha for each activities and the overall module. Results indicated excellent reliability for all scales, as follows (cronbatch).

## RESULT AND DISCUSSIONS

The content validity of the C-A-RE module was evaluated using the Item-level Content Validity Index (I-CVI) and the Scale-level Content Validity Index (S-CVI). Content validity indices were computed following the guidelines by Lynn [39] and Polit & Beck [34]. An I-CVI of  $\geq 0.78$  was considered acceptable for eight experts, while an S-CVI/Ave  $\geq 0.90$  and S-CVI/UA  $\geq 0.80$  were considered indicators of strong scale-level content validity [34]. The calculated in table 2 shows I-CVI values ranged from 0.875 to 1.000 across the six items, indicating high agreement among experts. The S-CVI/Ave was 0.979, exceeding the commonly recommended threshold of 0.90, thereby demonstrating excellent average content validity for the scale.

For the S-CVI/UA, which reflects universal agreement among experts, the value was 0.833, meaning that five out of six items (83.3%) were rated as relevant (scores of 4 or 5) by all eight experts. Only one item fell slightly below universal agreement because one expert rated it lower (score of 3). Nevertheless, the S-CVI/UA value remained above the often-cited acceptable minimum of 0.80, supporting the overall content validity of the instrument.

These results indicate that the C-A-RE module content is judged by experts as highly relevant and appropriate for the target population. The high I-CVI and S-CVI/Ave values suggest strong consensus among experts regarding the relevance and clarity of the C-A-RE module items. Although one item did not achieve universal agreement, overall content validity remained robust, supporting the module's suitability for implementation. Future revisions may focus on refining the specific item with slightly lower consensus.

Table 2 Analysis of the C-A-RE Module content validity

Item Description	EXPERT RATING								I-CVI	UA (Yes/No)
	1	2	3	4	5	6	7	8		
The contents of the C-A-RE Module meet the target population.	5	5	5	5	5	5	5	5	1.000	Yes
The contents of the C-A-RE Module can be successfully implemented.	4	5	5	5	5	5	5	3	0.875	No
The contents of the C-A-RE Module are suitable for the allocated time.	4	5	4	5	4	4	5	5	1.000	Yes
The contents of the C-A-RE Module can help the sandwich generation workers reduce the stress.	4	5	4	5	5	5	5	4	1.000	Yes
The contents of the C-A-RE Module can help the sandwich generation workers improve career adaptability.	4	5	5	5	5	5	5	4	1.000	Yes
The contents of the C-A-RE Module can help the sandwich generation workers improve career resilience.	4	5	4	5	5	5	5	4	1.000	Yes

The content validity findings for the C-A-RE module are highly encouraging, as evidenced by consistently high I-CVI values across nearly all items. Five of the six items achieved a perfect I-CVI of 1.00, reflecting unanimous expert agreement on the relevance and clarity of these components for the target population of sandwich generation university support staff. The exception was Item 2, which recorded an I-CVI of 0.88 and did not reach universal agreement. Nonetheless, this value remains above the commonly recommended threshold of 0.78 for acceptable content validity in assessments involving eight expert reviewers [34], [39]. These results suggest that the C-A-RE module is well-aligned with both theoretical foundations and the practical needs of the intended population, indicating strong potential for effective implementation within the Malaysian higher education context.

While the overall content validity of the C-A-RE module was strong, the absence of universal agreement for Item 2, which pertaining to the feasibility of module implementation warrants critical reflection. Although the

item attained an I-CVI of 0.88, which exceeds the recommended minimum threshold for acceptability [34], one expert raised specific concerns regarding the semantic implications of the phrase “successfully implemented.” The expert noted that this phrasing may inadvertently suggest empirical evidence of effectiveness, which would be premature given that the module had not yet been subjected to full-scale implementation. This feedback highlights a specific but important issue in content validation: the need for careful linguistic precision, especially when referring to anticipated rather than observed outcomes.

This observation suggests that content validation instruments must distinguish between perceived feasibility and demonstrated efficacy, particularly in the early stages of module development. Future iterations of the validation process may benefit from rephrasing evaluative statements to reflect projected rather than conclusive implementation success.

Addressing such concerns also underscores the importance of engaging institutional stakeholders during module design to ensure alignment with real-world constraints. Offering modular or flexible delivery formats may further address practical concerns, improving the scalability and sustainability of the intervention across various organizational settings. Despite the minor disagreement on this item, the overall high level of expert consensus reinforces the module’s theoretical robustness and practical potential, providing a strong foundation for subsequent implementation and outcome-based evaluation studies.

The strong content validity results for Items 4 through 6 reinforce the conceptual integrity and practical relevance of the C-A-RE module. These items correspond to the module’s three core objectives: reducing stress (Item 4), enhancing career adaptability (Item 5), and strengthening career resilience (Item 6). The high level of expert agreement on these components reflects a shared conviction that the module’s strategies and activities are effectively designed to address the psychological and professional challenges experienced by sandwich generation employees. Specifically, the rating for Item 4 underscores the module’s potential to reduce stress from the simultaneous demands of caregiving and full-time employment. Similarly, the endorsement of Item 5 indicates strong expert confidence in the module’s ability to improve career adaptability and maintaining career continuity in the face of competing life roles. Item 6 received equally high support, signaling alignment with key resilience-building frameworks and affirming the module’s capacity to help individuals recover from setbacks and sustain well-being over time.

Taken together, these results suggest that the C-A-RE module is both theoretically grounded and practically viable. Drawing upon validated psychological and career development theories, the module presents as intervention well-suited for implementation within Malaysian higher education institutions. The convergence of theoretical robustness, content validity, and expert endorsement offers strong justification for advancing the C-A-RE module toward larger-scale empirical evaluations and potential integration into institutional wellness and career development initiatives.

Table 3 Reliability of the Module

C-A-RE Module Activities	Duration	Total Items	Reliability coefficient
<b>Stress</b>			
Life Challenges	60 Minutes	5	0.931
Coping Strategies	60 Minutes	5	0.973
<b>Career Adaptability</b>			
Planning	60 Minutes	5	0.964
Decision-Making	60 Minutes	4	0.913
Self exploration, career, and family	60 Minutes	8	0.962
Problem-Solving	60 Minutes	5	0.974

Career Resilience			
Self-empowerment journey	60 Minutes	6	0.942
Creating My Unique Career Story	60 Minutes	5	0.966
Value of networking	60 Minutes	4	0.935
Acceptance	60 Minutes	5	0.924
<b>Reliability of the C-A-RE module</b>	<b>600 Minutes</b>	<b>52</b>	<b>0.927</b>

The C-A-RE module was designed to address the multidimensional needs of sandwich generation workers, with a focus on three key domains, stress, career adaptability, and career resilience. To ensure both the effectiveness and psychometric robustness of its components, the module underwent rigorous reliability testing and content validation. As presented in Table 3, each activity achieved a high level of internal consistency, with Cronbach's alpha coefficients ranging from 0.913 to 0.974. The overall reliability coefficient for the entire module was 0.927, indicating excellent internal consistency across all items and confirming expert agreement regarding the relevance and appropriateness of the content. These findings align with established standards in psychological measurement, where a Cronbach's alpha of 0.70 or above is considered acceptable for newly developed instruments. Moreover, the results are consistent with previous studies on module development and validation (e.g., [33], [35], [36]).

The stress management component demonstrated particularly strong reliability, with the "Life Challenges" and "Coping Strategies" activities yielding alpha values of 0.931 and 0.973, respectively. These results highlight the consistency with which participants interpreted and responded to items related to identifying and managing stressors, underscoring the module's capacity to support stress regulation among dual-role caregivers. Likewise, the career adaptability submodule yielded high reliability across activities including "Planning" (0.964), "Decision-Making" (0.913), "Self-Exploration, Career and Family" (0.962), and "Problem-Solving" (0.974). These outcomes affirm the module's alignment with career construction and adaptability theory, and its effectiveness in facilitating proactive career management among participants.

Similarly, the career resilience submodule exhibited strong psychometric properties. Activities such as "Journey of Self-Empowerment" (0.942), "Creating My Unique Career Story" (0.966), "Value of Networking" (0.935), and "Acceptance" (0.924) all demonstrated high internal consistency. These findings support the robustness of the module's strategies for promoting resilience through self-reflection, personal narrative development, value clarification, and adaptive acceptance. Collectively, the high reliability coefficients across all activities suggest that the C-A-RE module is a psychometrically sound and conceptually coherent intervention capable of addressing the complex needs of sandwich generation workers within institutional contexts. This study aligns with module development research, e.g., [40]-[42].

The consistently high reliability across all activities shows that the C-A-RE module is a psychometrically sound intervention. The comprehensive coverage of key areas and strong expert validation indicate that the module is suitable for implementation with sandwich generation workers. Organisations and practitioners can use the module with confidence, knowing that each component is both reliable and valid to support stress management, career adaptability and resilience.

The results suggest that the C-A-RE module is an exceptionally reliable and valid intervention to meet the diverse needs of sandwich generation workers. Its strong psychometric foundation, reflected in consistently high reliability coefficients and considerable content validity, emphasises its effectiveness in promoting well-being and career development in this population. The overall CVI indicates a high level of agreement among experts regarding the content, relevance and practical applicability of the module. Notably, every item assessed exceeded the widely recognised threshold, further confirming the module's suitability for practical implementation and its potential as a basis for future research and intervention initiatives.



## CONCLUSION

This study advances the literature on interventions for sandwich generation workers by developing and psychometrically evaluating the C-A-RE module, which targets stress management, career adaptability, and resilience among university support staff in Malaysia. Through expert content validation and pilot reliability testing, the module demonstrated excellent item reliability and strong agreement among experts regarding its relevance and applicability to the target population. These results suggest that the C-A-RE module is grounded in established theoretical frameworks, including Stress Appraisal and Coping Theory, Career Construction Theory and Career Motivation Theory. Nonetheless, several limitations warrant consideration. The study relied on expert judgment and a small pilot sample, precluding conclusions about behavioral outcomes or long-term efficacy. Further exploration of the module's adaptability across different institutional settings and its integration into broader workplace wellness initiatives is also recommended. By situating the C-A-RE module within established theoretical frameworks and acknowledging areas for further empirical investigation, this study provides a foundational step toward developing robust, evidence-based interventions to support the unique challenges faced by sandwich generation workers in higher education contexts.

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