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Sommaire

Le bien-être financier (BEF) est un prédicteur important de divers indicateurs de fonctionnement général des gens tels que la satisfaction de vie, le bien-être et la santé globale (Arber et al., 2014; Netemeyer et al., 2018; Shim et al., 2009; Sorgente & Lanz, 2019). Il n'est donc pas surprenant de constater que plusieurs acteurs s'y intéressent, comme les gouvernements, les institutions financières et les employeurs (p. ex., Bank of America, 2021; Consumer Financial Protection Bureau [CFPB], 2015; OECD/INFE, 2020; Santander, 2022; Sun Life Financial, 2020). Malgré cet intérêt accru du milieu des affaires et des autorités publiques, certains éléments incontournables sur le plan scientifique demeurent imprécis, telles la conceptualisation et l'opérationnalisation du construit (Brüggen et al., 2017; Kaur & Singh, 2022; Nanda & Banerjee, 2021) et d'autres inexplorés telle la caractérisation de profils de BEF spécifiques à des sous-groupes d'individus correspondants. La présente thèse vise donc à approfondir les connaissances sur ces éléments en particulier. Pour y parvenir, deux articles scientifiques sont présentés. Le premier se concentre sur la conceptualisation et l'opérationnalisation du BEF afin de parvenir à mesurer adéquatement ce construit. Pour mesurer plus adéquatement le BEF, les résultats de l'article 1 proposent l'utilisation d'une version optimisée du *Multidimensional Subjective Financial Well-Being Scale for emerging adults,* développée par Sorgente et Lanz (2019). Les résultats attestent du caractère multidimensionnel du BEF, tout en précisant qu'il s'agit d'un construit global reflétant les éléments communs mais également spécifiques à cinq dimensions distinctes. À partir des résultats obtenus dans ce premier article, le second article vise à mieux caractériser le BEF en identifiant

des profils spécifiques à des sous-groupes d'individus, de même que leurs prédicteurs et conséquences sur le plan de la satisfaction de vie, du stress perçu et de la détresse psychologique, et ce, en portant une attention particulière à la variabilité des profils selon l'adoption ou non d'un budget personnel. En outre, les résultats de l'article 2 ont permis de caractériser cinq profils distincts du BEF : (1) Très faible BEF, avec préoccupations marquées par rapport à la situation financière future; (2) Faible BEF, avec préoccupations marquées par rapport à la suffisance des revenus et gestion des finances personnelles; (3) Normatif-Confortable; (4) Très faible BEF, confiant par rapport à la suffisance des revenus et la situation financière future; et (5) Faible BEF, confiance par rapport à la situation future ancrée dans une saine gestion financière. La configuration des profils est la même, qu'une personne adopte ou non un budget; seule la proportion d'individus dans chaque profil diffère selon l'adoption d'un budget. Les résultats de l'article 2 ont aussi permis d'identifier les prédicteurs contributifs (présence d'économies, efficacité financière perçue, revenu, sexe, névrosisme), par rapport à d'autres facteurs aucunement contributifs (connaissances financières objectives). Le rôle qu'occupe le BEF dans la prédiction du niveau de stress perçu, de la détresse psychologique et de la satisfaction de vie est fort important et mérite qu'on s'y attarde, spécialement pour deux profils de BEF (*Très faible BEF, avec préoccupations marquées par rapport à la situation financière future* et *Très faible BEF, confiant par rapport à la suffisance des revenus et la situation financière future*). Les contributions théoriques et pratiques des articles sont précisées dans la discussion générale, tout en dégageant les limites des études réalisées et en proposant des avenues de recherche.

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Introduction générale

En s'appuyant sur l'une des définitions les plus répandues, soit celle proposée par le CFPB en 2015 (Riitsalu et al., 2023), le bien-être financier (BEF) réfère à un état dans lequel une personne est en mesure : (1) d'avoir le contrôle sur ses finances au quotidien; (2) de faire face à un choc financier; (3) d'atteindre ses objectifs financiers; et (4) d'avoir la possibilité de faire des choix qui lui permettent de profiter de la vie. Bien que ce construit soit relativement récent, la recherche tend déjà à démontrer que le bien-être financier joue un rôle appréciable dans la manifestation de divers états de bien-être de nature psychologique (Iannello et al., 2021; Sorgente & Lanz, 2019), subjective (Iannello et al., 2021; Shim et al., 2009; Sorgente & Lanz, 2019) ou globale (Arber et al., 2014; Netemeyer et al., 2018), voire même de nature physique (Shim et al., 2009; Sorgente & Lanz, 2019). Il n'est donc pas étonnant de constater que plusieurs chercheurs et acteurs socioéconomiques s'y intéressent. Parmi ces derniers, certains employeurs offrent à leurs employés des programmes de soutien en lien avec leurs finances personnelles (CFPB, 2014; Frank-Miller et al., 2019) et peuvent même aspirer à obtenir une reconnaissance d'un organisme externe soulignant la qualité du soutien offert (p. ex., Excellence Canada, 2019). Les institutions financières (p. ex., Banque Scotia, 2022; RBC, 2022; Santander, 2022) s'y intéressent également en proposant à leur clientèle diverses méthodes pour l'améliorer (p. ex., consulter régulièrement son budget, ne pas dépenser davantage si les revenus augmentent). Des organismes gouvernementaux, comme l'Agence de la

Consommation en matière Financière du Canada (ACFC) ou le CFPB (États-Unis), proposent en outre des outils en ligne destinés à la population, tout en déployant des stratégies nationales visant à améliorer le BEF. L'accroissement récent des études sur le BEF (Lee et al., 2023; Nanda & Banerjee, 2021) témoigne aussi d'un intérêt grandissant de la part de la communauté scientifique, mais tout en dévoilant d'importantes lacunes auxquelles s'attache cette thèse de doctorat.

Premièrement, la conceptualisation et l'opérationnalisation du BEF n'ont pas encore atteint le stade du consensus (Brüggen et al., 2017; Kaur & Singh, 2022; Nanda & Banerjee, 2021), faisant en sorte qu'il est parfois complexe de savoir ce qui est réellement mesuré et de comparer les études entre elles. Devant cette situation, il n'est pas étonnant de constater que la façon optimale de mesurer le BEF n'est toujours pas claire. Les échelles sur lesquelles reposent les études peuvent se répartir en trois catégories principales : (1) celles constituées d'un seul item; (2) celles dont les qualités psychométriques ne sont pas divulguées; et (3) celles dont les qualités psychométriques sont divulguées. Parmi les études qui s'appuient sur une échelle dont les qualités psychométriques sont divulguées, certaines font la démonstration d'une structure unidimensionnelle alors que d'autres suggèrent plutôt une structure multidimensionnelle. Un élément qui ajoute davantage de confusion est lié au fait que les échelles multidimensionnelles ne reposent pas forcément toutes sur les mêmes dimensions. Par exemple, l'échelle de Netemeyer et al. (2018) en propose deux, alors que celle de Sorgente et Lanz (2019) en suggère cinq.

Deuxièmement, les études sur le BEF portent exclusivement sur une approche centrée sur les variables, supposant l'uniformité des scores (et des relations) observés dans un échantillon donné (Morin et al., 2017). Par exemple, dans l'étude de Netemeyer et al. (2018), qui s'appuie sur une échelle multidimensionnelle, les auteurs présentent un score moyen de 3,06 (sur cinq) sur la dimension de *Sécurité Financière Attendue* et de 2,80 (sur cinq) sur la dimension de *Stress lié à la Gestion Financière Courante.* Cela ne permet pas de mettre en lumière les différences interindividuelles propres à un échantillon, ni de comprendre la dynamique qui s'opère entre les différentes dimensions. Contrairement à une approche centrée sur les variables, une approche centrée sur la personne tient compte de l'hétérogénéité des scores des individus afin de permettre l'identification de sous-groupes d'individus partageant des ressemblances sur une variable d'intérêt ou la configuration de ses diverses dimensions. Une telle analyse devrait ainsi permettre d'offrir une compréhension plus riche et nuancée et reflétant mieux la réalité du BEF.

La présente thèse a comme objectif général d'approfondir les connaissances sur le BEF en palliant les lacunes identifiées en lien avec sa conceptualisation, son opérationnalisation et l'approche statistique déployée pour aspirer à étudier ce construit dans toute sa profondeur. Pour ce faire, le premier article propose une conceptualisation du BEF qui s'appuie sur une analyse des conceptualisations existantes. À la suite d'une synthèse des conceptualisations proposées dans les écrits scientifiques, l'analyse statistique de l'instrument privilégié pour mesurer le BEF sera effectuée en examinant et comparant diverses structures factorielles (AFC, AFC bifactorielle, *Exploratory*

Structural Equation Modeling [ESEM] et ESEM bifactorielle) afin de déterminer celle qui reflète le mieux le construit. En s'appuyant sur les résultats du premier article, qui soutiennent la nécessité d'opter pour une échelle optimisée, le second article propose l'identification de profils latents de BEF, tout en dégageant l'apport de certains prédicteurs et des conséquences psychologiques associées.

Les prochaines sections visent à mettre en perspective les différentes conceptualisations du BEF, ses diverses opérationnalisations, de même que les déterminants et conséquences associées. Il sera en outre question d'identifier les principales lacunes rattachées à cet objet de recherche afin de présenter les objectifs poursuivis par la thèse.

Qu'est-ce que le bien-être financier (BEF)?

Dans son expression la plus simple, le bien-être financier devrait être le reflet d'une bonne condition financière (Sorgente et al., 2023). Bien que les récentes études sur le BEF s'intéressent principalement à son caractère subjectif (Nanda & Banerjee, 2021), c'est-à-dire la façon dont une personne perçoit sa situation financière (Sorgente & Lanz., 2017), ce construit est aussi appréhendé de façon objective ou encore selon une conceptualisation hybride, à la fois objective et subjective (Brüggen et al., 2017; Riitsalu et al., 2023; Sorgente et al., 2023). Le recours à des mesures purement objectives présente néanmoins certaines limites dans un contexte où l'on s'intéresse à l'état psychologique d'un individu. La première limite s'attache au caractère foncièrement perceptuel (donc subjectif) pouvant

ici être illustré par le fait que deux personnes ayant la même situation financière mesurée de façon objective (p. ex., leurs revenus, leurs actifs) n'auront pas forcément la même perception de cette situation. Qu'elle soit cognitive ou émotionnelle, la perception des gens est susceptible de varier en fonction de facteurs individuels, comme leurs valeurs ou leurs expériences (Nanda & Banerjee, 2021; Netemeyer et al., 2018; Prawitz et al., 2006; Strömbäck et al., 2017). Cela fait en sorte que dans un contexte où l'état psychologique (et non financier) est le sujet d'intérêt principal, il apparait plus approprié de s'appuyer sur le BEF *subjectif*. Deuxièmement, la situation financière d'une personne comprend plusieurs éléments comme les placements à court ou long terme, les revenus, l'endettement ou les actifs immobiliers, et ces montants varient d'une personne à l'autre, pas uniquement en termes absolus, mais aussi en termes proportionnels. Cela rend donc très difficile la comparaison des individus sur une base uniquement objective de certains éléments du bilan financier.

Bien que faisant l'objet d'un nombre croissant d'études (Nanda & Banerjee, 2021), la conceptualisation du BEF subjectif ne fait toutefois pas consensus au sein de la communauté scientifique (Brüggen et al., 2017; Kaur & Singh, 2022; Nanda & Banerjee, 2021; Riitsalu & van Raaij, 2022). Ce constat a néanmoins permis de dresser une comparaison des principales conceptualisations (définitions) et opérationnalisations (dimensions), lesquelles sont présentées aux Tableaux 1 et 2. Il en ressort plusieurs éléments consensuels.

Tableau 1

Définitions du BEF

Auteur(s)	Définition
Brüggen et al. (2017)	La perception qu'ont les individus de leur capacité à maintenir leur niveau de vie actuel et souhaité, ainsi que leur liberté financière.
Consumer Financial Protection Bureau (CFPB, 2015)	Un état dans lequel les individus sont en mesure de faire face à leurs obligations financières actuelles, se sentent en sécurité par rapport à leur avenir financier et sont en mesure de faire des choix qui leur permettent de profiter de la vie.
Kempson & Poppe (2017)	La mesure dans laquelle les individus peuvent aisément répondre à tous leurs engagements et besoins actuels et avoir la résilience financière pour maintenir cette capacité dans le futur.
Muir et al. (2017)	Le bien-être financier survient lorsque les individus sont en mesure de faire face à leurs dépenses avec un surplus, contrôlent leurs finances et se sentent en sécurité financièrement vis-à-vis de leur situation actuelle et future.
Netemeyer et al. (2018)	Aucune définition n’est proposée par les auteurs.
Sorgente & Lanz (2017, 2019)	Le bien-être financier subjectif correspond à l'évaluation émotionnelle et cognitive que les individus font de leur propre situation financière, c'est-à-dire à l'expérience subjective qu'ils en ont.

Tableau 2

Dimensions du BEF

Auteur(s)	Dimensions						
	Suffisance des revenus	Profiter de la vie	Temps (present vs futur)	Relativité (vs autres)	Contrôle (gestion des finances)	Éval. cognitive (satisfaction)	Éval. émotionnelle (stress, anxiété)
Brüggen et al. (2017)	X	X	X			X	
CFPB (2015)	X	X	X			X	X
Kempson & Poppe (2017)	X	X	X			X	
Muir et al. (2017)	X	X	X		X	X	X
Netemeyer et al. (2018)	X		X		X	X	X
Sorgente & Lanz (2017, 2019)	X		X	X	X	X	X

Premièrement, le BEF comprend plusieurs dimensions, bien que les dimensions ne soient pas nécessairement les mêmes selon les auteurs. Deuxièmement, le fait d'avoir un revenu suffisant pour subvenir aux besoins de base constitue une dimension consensuelle parmi l'ensemble des conceptualisations. Troisièmement, la distinction entre la situation financière actuelle et future, donc la prise en compte d'un aspect temporel, parait nécessaire. Cela reflète la situation où, pour une raison ou une autre, une personne pourrait être confiante par rapport à sa situation financière actuelle, mais pas forcément par rapport à sa situation future, ou vice-versa. Quatrièmement, une évaluation cognitive (par rapport à émotionnelle) de sa situation financière comme étant satisfaisante est aussi nécessaire. L'évaluation cognitive fait davantage référence au degré de satisfaction à l'égard de sa situation financière (p. ex., j'ai suffisamment d'argent pour subvenir à mes besoins essentiels) alors que l'aspect émotionnel renvoie davantage au ressenti envers cette situation (p. ex., ma situation financière actuelle m'inquiète).

Nonobstant ces éléments consensuels, certains ne font pas l'unanimité quant à la conceptualisation du BEF. Premièrement, l'importance « d'avoir du plaisir dans la vie » a été soulevée dans quatre des six définitions. Deuxièmement, la considération de l'aspect émotionnel du BEF ne fait pas non plus l'unanimité, contrairement au volet cognitif. Troisièmement, la notion de contrôle, répertoriée dans trois conceptualisations, est considérée comme l'action de gérer ou contrôler ses dépenses (p. ex., à l'aide d'un budget). Ainsi conceptualisée, cette notion de contrôle s'éloigne de celle évoquée dans divers modèles de stress et d'adaptation (p. ex., Averill, 1973; Lazarus & Folkman, 1984;

Sherman & Mehta, 2020) où le contrôle (sentiment de pouvoir agir sur une situation donnée) joue un rôle prépondérant dans l'expérience de stress et l'état de bien-être.

Enfin, soulignons que Sorgente et Lanz (2019) sont les seules à suggérer que la comparaison avec les pairs, soit une perception positive de sa situation financière par rapport à celles des autres, joue un rôle important dans la conceptualisation du BEF. Cela pourrait être attribuable au fait que leur population d'intérêt était celle âgée entre 18 et 29 ans et que, selon Sorgente et Lanz (2019), ces comparaisons sont particulièrement saillantes à cette période de vie.

Afin de proposer une définition affinée du BEF, il a été estimé nécessaire que cette dernière soit pleinement cohérente avec les recherches antérieures sur le sujet, tout en s'assurant que la définition, bien qu'unique et distincte, puisse s'aligner avec la notion plus vaste de bien-être général largement documenté (Keyes et al., 2002). Le bien-être général est habituellement étudié selon deux perspectives : le bien-être subjectif (BES; p. ex., satisfaction de vie, émotions positives et négatives, etc.) et le bien-être psychologique (BEP; p. ex., actualisation de soi, développement, etc.; Keyes et al., 2002). Le BES repose sur des composantes émotionnelles et cognitives (Diener et al., 2017) où l'aspect émotionnel renvoie à l'expérience d'émotions positives alors que l'aspect cognitif considère la satisfaction par rapport à différentes sphères de vie (p. ex., santé, couple, travail) ou à la vie en général (Diener et al., 2017). La perspective du bien-être est donc hédonique dans le cas du BES alors qu'elle est eudémonique (orienté sur le

fonctionnement positif et l'épanouissement) dans le cas du BEP (Keyes et al., 2002). Bien qu'étant distincts, le BES et le BEP sont tout de même interreliés et fournissent, ensemble, une perspective holistique du bien-être général (Chen et al., 2013; Disabato et al., 2016; Keyes et al., 2002). L'expérience simultanée de BES et de BEP constitue ce que Keyes et al. (2002) appellent le *bien-être optimisé*. S'appuyant sur cette perspective holistique du bien-être et sur les recherches antérieures sur le BEF, la définition de BEF que nous proposons dans la présente thèse est la suivante : un état psychologique positif caractérisé par un sentiment de contentement par rapport à sa situation financière personnelle et par une perception positive quant à sa capacité financière de subvenir à ses besoins actuels et futurs. Cette définition s'inscrit donc dans une représentation à la fois hédonique et eudémonique du bien-être, tout en étant spécifique à la sphère financière de l'individu. Maintenant que la conceptualisation du BEF a été clarifiée, il sera question de la façon dont celui-ci est mesuré dans la prochaine section.

Comment le bien-être financier se mesure-t-il?

Devant le manque de consensus entourant la définition du BEF, il n'est pas étonnant de constater qu'il n'existe actuellement aucune échelle de mesure faisant l'unanimité au sein de la communauté scientifique. Les études dont l'objectif central était de proposer une façon de mesurer le BEF peuvent se décliner en trois catégories principales : (1) les mesures qui contiennent un seul item (p. ex., Brown & Gray, 2016; Lui et al., 2016); (2) celles dont les qualités psychométriques ne sont pas divulguées (p. ex., Burcher et al., 2018; Momentum & UNISA, 2011; Serido & Shim, 2017); et (3) celles dont les qualités

psychométriques (p. ex., saturations, indices d'adéquation) sont disponibles (p. ex., CFPB, 2017; Kempson & Poppe, 2017; Netemeyer et al., 2018; Prawitz et al., 2006; Sorgente & Lanz, 2019). Étant donné le consensus entourant l'aspect multidimensionnel du BEF, il apparait que les échelles appartenant à la première catégorie énoncée ne soient pas adéquates. Compte tenu de l'absence d'informations permettant aux lecteurs d'apprécier les qualités psychométriques des échelles de la deuxième catégorie, celles-ci semblent également inadéquates. Quant aux échelles de la troisième catégorie, certaines proposent une structure unidimensionnelle (CFPB, 2017; Kempson & Poppe, 2017; Prawitz et al., 2006) et d'autres, multidimensionnelle (Netemeyer et al., 2018; Sorgente & Lanz, 2019). En raison du consensus par rapport au volet multidimensionnel du BEF soutenu empiriquement par des études dévoilant l'existence et la pertinence de plusieurs dimensions (p. ex., Netemeyer et al., 2018; Sorgente & Lanz, 2019), les échelles proposant une seule dimension semblent également inappropriées.

Il se dégage des écrits scientifiques que deux échelles seraient susceptibles d'évaluer adéquatement le BEF selon une conceptualisation multidimensionnelle du construit, soit celles de Netemeyer et al. (2018) et de Sorgente et Lanz (2019). La *Perceived Financial Well-Being Scale* (PFWBS) proposée par Netemeyer et al. comprend deux dimensions, soit *Stress lié à la Gestion Financière Courante* et *Sécurité Financière Future Attendue*. Cette échelle met l'accent sur l'importance de distinguer la situation actuelle par rapport à la situation future. Cependant, bien qu'un des facteurs (*Sécurité Financière Future Attendue*) mette l'accent sur la situation projetée, une lecture des items laisse plutôt croire

qu'ils évaluent davantage si une personne a fait ou est en train de faire les démarches nécessaires pour assurer son avenir financier (p. ex., « *I am securing my financial future* »; « *I have saved (or will be able to save) enough money to last me to the end of my life* »). Si l'objectif est véritablement de mesurer comment une personne se sent par rapport à sa situation future, il ne semble pas tout à fait pertinent de tenter de déterminer si certaines actions bien précises ont été effectuées. De telles actions (comportements financiers) pourraient constituer des prédicteurs du BEF plutôt que de refléter l'une de ses composantes (Riitsalu et al., 2023). Il importe aussi de souligner que quatre des dix items proviennent de l'échelle développée par le CFPB en 2017, dont trois se trouvent dans la dimension de *Stress lié à la Gestion Financière Courante*, ce qui tend à suggérer que la dimension *Sécurité Financière Future Attendue* est celle qui est davantage novatrice, sans pour autant permettre de conclure qu'elle soit adéquate ou bien mesurée.

Quant au *Multidimensional Subjective Financial Well-Being Scale* (MSFWBS) de Sorgente et Lanz (2019), l'instrument propose cinq dimensions (voir Appendice A pour la liste complète des items), soit : la *Suffisance des Revenus*, la *Comparaison avec les Pairs*, l'*État Général de BEF*, la *Gestion de ses Finances Personnelles* et l'*Avenir Financier.* Le fait d'avoir plus de dimensions n'est pas forcément un gage de qualité supérieure ou de valeur ajoutée. Or, dans la mesure où le BEF constituerait un construit multidimensionnel, qui ne se limite pas à une distinction entre la situation actuelle et future, l'échelle MSFWBS semble se démarquer avantageusement des autres. Cette échelle se caractérise par la présence de tous les éléments pertinents utilisés pour comparer

les échelles (voir Tableau 1) à l'exception « d'avoir du plaisir dans la vie ». Certes, la MSFWBS ne propose pas de dimension spécifique à cet élément, mais l'examen des items permet tout de même de constater que cet élément n'est pas entièrement négligé comme en témoignent les items « *I have enough money to pursue my passions* » et « *I have enough funds to enjoy my life* ». De plus, comparativement à la PFWBS (et aux autres échelles), la MSFWBS propose une dimension de comparaison avec les pairs, ce qui représente un élément distinctif intéressant qui mérite d'être analysé de plus près. En somme, puisque la MSFWBS est pleinement cohérente avec les éléments consensuels au sein de la communauté scientifique ainsi qu'avec la définition proposée qui reflète une vision hédonique et eudémonique du BEF, celle-ci est retenue pour les études de la présente thèse. La prochaine section porte sur les déterminants potentiels du BEF.

Quels sont les déterminants du bien-être financier?

Dans leur recension systématique de 2017, Sorgente et Lanz ont identifié 95 déterminants du BEF alors qu'en 2006, Prawitz et al. en répertoriaient 58. Dans un domaine de recherche aussi émergent, il nous apparaissait important d'enrichir la compréhension du BEF, à l'aide d'une mesure multidimensionnelle, en s'appuyant sur certains prédicteurs (1) déjà documentés (bien qu'évalués de manière indépendante, selon une perspective unidimensionnelle du BEF, par exemple : CFPB, 2017; Joshanloo, 2022); (2) identifiés par les chercheurs (mais dont les résultats d'études sont peu concluants, par exemple : Chhatwani, 2022 et Tharp et al., 2020); et (3) bien établis dans l'étude plus vaste du bien-être (mais dont le rôle en lien au BEF n'est pas défini, par exemple : Olesen

et al., 2015; Steel et al., 2008). En d'autres mots, l'idée était de savoir si, selon une perspective multidimensionnelle, les connaissances sur le BEF peuvent être (1) précisées, (2) approfondies et (3) élargies.

Le choix des prédicteurs a été inspiré du cadre conceptuel du BEF proposé par Brüggen et al. (2017) qui comprend des facteurs d'ordre contextuel (c.-à-d., économiques, légaux, politiques, socioculturels, technologiques, marché financier) et personnel (sociodémographiques, compétence-attitude-motivation, traits, pratiques financières et évènements de la vie). Dans le cadre de cette thèse, l'attention a été portée sur les facteurs d'ordre personnel étant donné qu'un individu a davantage d'emprise sur ceux-ci comparativement aux facteurs d'ordre contextuel. Plus précisément, l'accent a été mis sur certains facteurs sociodémographiques (sexe, revenu et présence d'économies), d'autres liés à la compétence-attitude-motivation (perception de compétence, autoefficacité financière, connaissances financières) et un lié à la personnalité (trait de névrosisme). Selon Riitsalu et al. (2023), les travaux actuels sur le BEF présentent une faiblesse de taille, soit qu'ils sont largement athéoriques. Comme le choix des prédicteurs s'appuie sur un cadre conceptuel, les travaux devraient contribuer à élargir les connaissances dans ce champ d'études émergent.

Littératie financière

La façon de définir et de mesurer la littératie financière ne fait pas l'unanimité (Goyal & Kumar, 2021). Toutefois, il y a un élément qui semble clair, soit que la littératie

financière ne se limite pas uniquement aux connaissances que possède un individu (Goyal & Kumar, 2021; Hensley, 2015; Netemeyer et al., 2018; Remund, 2010; Warmath & Zimmerman, 2019). En effet, d'autres aspects doivent être considérés, comme les compétences financières (c.-à-d., l'habileté à trouver et traiter les informations financières pour ensuite agir en fonction de celles-ci; CFPB, 2018) et l'autoefficacité (c.-à-d., la confiance envers son habileté à atteindre ses objectifs financiers; CFPB, 2018). Malgré cela, la majorité des études se sont penchées sur les relations entre les connaissances financières, qu'elles soient objectives ou perçues, et le BEF. La distinction entre les connaissances financières perçues et objectives est importante, puisque les connaissances perçues seraient plus fortement associées au BEF que les connaissances objectives (Vörös et al., 2021; Xiao et al., 2014). Des études ayant évalué uniquement les connaissances financières mesurées objectivement, sans comparaison avec les connaissances financières perçues (Losada-Otalora et al., 2020; Mahdzan et al., 2019; Utkarsh et al., 2020), ont conclu en l'absence de relations significatives avec le BEF. En d'autres mots, si la littératie financière se résume aux connaissances financières mesurées objectivement, celle-ci ne constituerait pas un important prédicteur du BEF. Il en serait autrement pour les compétences financières et l'autoefficacité dont l'association positive avec le BEF est documentée (p. ex., CFPB, 2017; Netemeyer et al., 2018), mais tout de même peu étudiée jusqu'à maintenant. Il semble donc justifié et pertinent d'évaluer simultanément l'apport spécifique des connaissances, des compétences financières et de l'autoefficacité sur les dimensions du BEF, d'autant plus que ces associations ont uniquement été documentées

à l'aide du *Percieved Financial Well-Being Scale* qui demeure, comme indiqué précédemment, lacunaire.

Névrosisme

La personnalité occupe un très grand rôle dans la compréhension du bien-être subjectif (Steel et al., 2008). Parmi les traits de personnalité les mieux documentés, le névrosisme, qui renvoie à la facilité et fréquence avec lesquelles une personne devient bouleversée et en détresse (Carver & Connor-Smith, 2010), est plus fortement associé à l'adaptation des individus au stress et à leur bien-être subjectif (Olesen et al., 2015; Steel et al., 2008; Vittersø & Nilsen, 2002). Cependant, le rôle que pourrait jouer ce trait dans la compréhension du BEF (Netemeyer et al., 2018; Sorgente et al., 2023), un état contextualisé, plus spécifique de bien-être, demeure méconnu. Les études qui se sont intéressées à l'association entre le névrosisme et le BEF sont non seulement rares (Heo et al., 2018), mais elles reposent sur une méthodologie qui en limite la portée. Par exemple, les échantillons reposent sur des participants âgés de 50 ans et plus (Chhatwani, 2022; Tharp et al., 2020), ce qui rend difficile la généralisation des résultats. Aussi, le recours à une échelle unidimensionnelle pour mesurer le BEF (Joshanloo, 2022) fait en sorte qu'il est difficile de nuancer les résultats et d'avoir un portrait précis des associations observées.

Avoir des économies

Les études s'intéressant au lien entre la présence d'économies et le BEF indiquent une relation positive entre ces variables. En effet, que les économies soient le fruit du

comportement d'économiser de façon récurrente au moment présent (p. ex., Anvari-Clark & Ansong, 2022; Mahdzan et al., 2019; Ponchio et al., 2019; Riitsalu & Murakas, 2019; Walker et al., 2018) ou dans le passé (p. ex., Netemeyer et al., 2018), qu'elles visent la constitution d'un « coussin » financier pour des dépenses à court terme (p. ex., Anvari-Clark & Ansong, 2022; Fan & Henager, 2022; Riitsalu & van Raaij, 2020) ou à long terme (p. ex., Fan & Henager, 2022), les constats sont essentiellement les mêmes. La présence d'économies, n'eut égard à la façon qu'elles sont accumulées ou à leur visée, s'avère une variable dont l'importance est de plus en plus documentée dans les écrits scientifiques.

Revenus

Le revenu a souvent été mis en relation avec le BEF (p. ex., Joo & Grable, 2004; Netemeyer et al., 2018; Riitsalu & Murakas, 2019; Riitsalu & van Raaij, 2022; Sorgente & Lanz, 2019; Walker et al., 2018) et les résultats sont univoques attestant d'une relation positive entre ces construits. Les études qui se sont appuyées sur des échelles multidimensionnelles du BEF permettent toutefois de nuancer ces résultats. Dans l'étude de Riitsalu et van Raiij (2022) où le BEF a été mesuré à partir du PFWBS dans 16 pays, il a été montré que le revenu était positivement associé à la dimension *Stress lié à la Gestion Financière Courante* dans tous les pays et avec la dimension *Sécurité Financière Future Attendue* dans tous les pays à l'exception de trois (l'Autriche, la République Tchèque et le Luxembourg). Dans l'étude de Sorgente et Lanz (2019), le revenu personnel était positivement associé aux dimensions du BEF à l'exception de la *Gestion de ses Finances Personnelles* et de l'*Avenir Financier*. L'étude de Netemeyer et al. (2018) a

révélé que le revenu était positivement associé aux deux dimensions du BEF évaluées par leur échelle, mais que le pouvoir prédictif par rapport à d'autres variables n'était pas le même selon la dimension d'intérêt (*Stress lié à la Gestion Financière Courante* ou *Sécurité Financière Future Attendue*). Plus précisément, dans le cas de la dimension *Stress lié à la Gestion Financière Courante*, le revenu avait un pouvoir prédictif moins élevé que le fait d'avoir des retards de paiements/faire seulement les paiements minimums, le contrôle de soi et le matérialisme alors que pour la dimension *Sécurité Financière Future Attendue*, seule l'autoefficacité avait un pouvoir prédictif plus élevé que le revenu.

Sexe

Contrairement au revenu, la relation entre le sexe et le BEF n'est pas aussi bien établie. Alors que certaines études indiquent que les femmes ont un niveau de BEF plus élevé (p. ex., Chatterjee et al., 2019; Delafrooz & Paim, 2011), d'autres révèlent le contraire (p. ex., Kempson & Poppe., 2017; Riitsalu & Murakas, 2019) ou encore n'observent aucune différence à ce propos (p. ex., CFPB, 2017). Parmi les diverses raisons pouvant expliquer l'inconsistance des résultats observés, notons le recours à diverses échelles pour mesurer le BEF. La prochaine section traitera des conséquences du BEF.

Quelles sont les conséquences du bien-être financier?

Peu d'études se sont intéressées aux associations entre le BEF et ses conséquences sur le plan du fonctionnement individuel, la majorité se focalisant sur ses déterminants (Bashir & Qureshi, 2022; Nanda & Banerjee, 2021). Toutefois, certaines ont dévoilé la

présence de relations significatives avec divers indicateurs importants du fonctionnement individuel comme la santé globale (Arber et al., 2014), la satisfaction de vie (Sorgente & Lanz, 2019), le bien-être général (Netemeyer et al., 2018), le BEP (Iannello et al., 2021; Sorgente & Lanz, 2019), le BES (Iannello et al., 2021) et la santé physique (Sorgente & Lanz, 2019). Les études ayant utilisé une échelle multidimensionnelle permettent d'ailleurs de dresser un portrait plus précis et nuancé de ces relations. Dans l'étude réalisée par Iannello et al. (2021), il est possible de constater que la dimension *Avenir Financier* du MSFWBS est celle qui prédit l'ensemble des conséquences évaluées (BEP, satisfaction de vie, émotions positives et négatives) et que les coefficients sont plus élevés que ceux observés entre les autres dimensions et les conséquences. Cette étude a aussi révélé que la dimension *Suffisance des Revenus* prédit le BEP et les affects négatifs et que la dimension *État Général de BEF* prédit la satisfaction de vie. Quant aux deux autres dimensions de l'échelle (*Gestion de ses Finances Personnelles* et *Comparaison avec les Pairs*), celles-ci ne prédisent aucune des conséquences mesurées. Quant à l'étude de Netemeyer et al. (2018), les résultats montrent une relation positive entre les deux dimensions de leur échelle du BEF (*Stress lié à la Gestion Financière Courante* et *Sécurité Financière Future Attendue*) et le bien-être général. Le rôle modérateur du revenu dans ces relations a également été soutenu, révélant que la relation (négative) entre le *Stress lié à la Gestion Financière Courante* et le bien-être général n'était significative que pour les personnes à faible revenu. Ces résultats s'apparentent à ceux de Kahneman et Deaton (2010) qui ont observé que le revenu était positivement associé au bien-être émotionnel mais ce, jusqu'à l'atteinte d'un certain niveau de revenu, soit environ 75 000 $. Au-delà de ce seuil de

revenu, le lien devenait non significatif. Quant à l'étude de Sorgente et Lanz (2019), les résultats dévoilent des relations significatives entre tous les indicateurs du fonctionnement individuel évalués (BEP, satisfaction de vie et bien-être physique) et les cinq dimensions de l'échelle à l'exception des associations entre les dimensions *Suffisance des Revenus* et *Comparaison avec les Pairs* et le bien-être physique. Il est aussi intéressant de constater que, tel qu'observé par Iannello et al. (2021), les résultats des études de Netemeyer et al. et Sorgente et Lanz (2019) indiquent que la dimension situation financière future est celle ayant le plus grand apport dans la prédiction des indicateurs de bien-être.

Existe-t-il un lien entre le bien-être financier et l'utilisation d'un budget?

Le budget est un outil de gestion financière recommandé par de nombreuses sources d'informations populaires et dont les vertus sont largement vantées. Des outils budgétaires sont d'ailleurs proposés gratuitement en ligne (p. ex., Barclays, 2022; CFPB, 2019; CPA Canada, n.d.; Financial Consumer [FCAC], 2022; OECD/INFE, 2020). De nombreux livres sont également disponibles pour aider les gens à faire un budget, certains avec des titres évocateurs comme « *The only budgeting book you'll ever need* » (Stouffer, 2012) ou encore « *You need a budget* » (Mecham, 2017). Les jeunes ne sont pas mis de côté dans les efforts visant à promouvoir l'utilisation d'un budget, comme en témoignent les nombreuses ressources disponibles en ligne qui leur sont destinées de façon spécifique (p. ex., Council for Economic Education & Jump $tart, 2021; Money Helper, n.d.; National Bank of Canada, 2018). Malgré l'omniprésence du budget dans les diverses sources d'informations destinées au grand public, il est difficile d'affirmer, d'un point de

vue scientifique, que ce sujet ait été étudié abondamment et avec rigueur. D'ailleurs, la définition même d'un budget n'est pas claire. Par exemple, en 2016, l'Organisation de coopération et de développement économique posait la question « *Does your household have a budget* » (OECD/INFE, 2016) et 67 % des répondants canadiens ont répondu oui. En 2017, l'ACFC a aussi mené une enquête sur les habitudes budgétaires des Canadiens en posant la question « Avez-vous présentement un budget pour vous aider à faire le suivi de votre argent? » et à laquelle 54 % des répondants ont répondu par l'affirmative. Dans leur étude de 2019, Ponchio et al. ont posé la question « *Does your household have a budget? (a household budget is used to decide what share of your household income will be used for spending, saving or paying bills* » et le taux de répondants ayant répondu dans l'affirmative était de 51 %. Bien qu'il soit attendu qu'il y ait des variations dans les proportions de personnes ayant adopté un budget d'une étude à l'autre, les écarts observés sont potentiellement liés au fait que le budget n'est pas clairement défini et lorsqu'il l'est, sa définition demeure variable et parcellaire. Pourtant, lorsqu'on consulte les sources d'informations populaires (p. ex., Australian Securities and Investments Commission, 2022; CPA Canada, n.d.; FCAC, 2022; InCharge, 2022), celles-ci comprennent souvent des recommandations très similaires, soit d'établir des objectifs financiers (autant pour les revenus que les dépenses), de faire un suivi détaillé des revenus et des dépenses pour ensuite faire une comparaison avec les objectifs afin d'apporter les correctifs nécessaires, s'il y a lieu.

Les études ayant mis en relation le budget et le BEF sont rares et lorsque la variable du budget est étudiée, elle n'est pas la variable centrale d'intérêt. Parmi ces études, celles menées par le CFPB en 2017 et en 2018 soutiennent que l'adoption de comportements financiers sains (dont le budget) est associée positivement au BEF. Gutter et Copur (2011) ont toutefois conclu que, malgré une association positive entre le budget et le BEF, celle-ci est relativement faible et que son apport au BEF est nettement moins important que le fait d'épargner. Muir et al. (2017) ont raffiné l'analyse en fonction du support informatique utilisé pour faire le budget et ont également observé une relation positive modeste entre les deux variables. Ces auteurs ont ainsi conclu que l'utilisation d'un chiffrier (p. ex., Microsoft Excel) résultait en une association plus forte avec le BEF que l'utilisation d'une application (p. ex., Mint). Ayant utilisé une échelle multidimensionnelle pour évaluer le BEF, Ponchio et al. (2019) ont analysé les associations avec les deux sous-dimensions du BEF, soit le *Stress lié à la Gestion Financière Courante* et la *Sécurité Financière Future Attendue* de l'échelle de Netemeyer et al. (2018). Il se dégage des résultats que les personnes utilisant un budget présentent un niveau de *Stress lié à la Gestion Financière Courante* plus élevé que celles qui n'en utilisent pas. Quant à la *Sécurité Financière Future Attendue*, la relation inverse a été observée, c'est-à-dire que les personnes utilisant un budget ont une *Sécurité Financière Future Attendue* plus faible que celles qui n'en ont pas. À la lumière des résultats des rares études ayant mis en relation l'utilisation d'un budget et le BEF, il semble que le lien soit relativement modeste. Une question demeure : la configuration des états de BEF est-elle la même chez les individus qui utilisent ou non un budget?

Lacunes actuelles des études sur le bien-être financier et objectifs de la thèse

Malgré l'intérêt scientifique grandissant envers le BEF, plusieurs éléments demeurent ambigus et imprécis, ce qui limite considérablement la compréhension théorique de ce construit et inévitablement ses implications pour la pratique. Parmi ces éléments, le manque de clarté quant à la conceptualisation et à l'opérationnalisation du construit constitue une lacune de taille. Sans définition claire du construit et des dimensions qui s'y rattachent, il devient fastidieux de prétendre évaluer un construit unique et distinct d'autres états de bien-être. Pour mener des études rigoureuses sur le BEF, il apparait tout aussi primordial de s'assurer que les instruments de mesure disponibles parviennent à évaluer adéquatement les construits prétendus. Pourtant cet objet d'étude n'est pas défini de manière univoque et la prolifération de mesures, dont certaines reposent sur des qualités psychométriques inconnues, risque de nuire considérablement à la structuration d'un écosystème de recherche cohérent dans lequel le développement des connaissances en favorise une pleine utilisation.

Opérationnalisation du BEF

Les échelles unidimensionnelles destinées à mesurer le BEF ne semblent pas adéquates compte tenu du consensus entourant l'aspect multidimensionnel du construit. Parmi les échelles multidimensionnelles, la MSFWBS de Sorgente et Lanz (2019) semble se démarquer avantageusement par rapport à la PFWBS de Netemeyer et al. (2018). Toutefois, une analyse plus approfondie de ses caractéristiques fait ressortir quelques

lacunes qui, une fois palliées, permettraient d'en recommander son utilisation à plus grande échelle.

Premièrement, la structure factorielle de l'échelle a été validée à partir d'une analyse factorielle confirmatoire (AFC). Les corrélations élevées entre certains facteurs (c.-à-d., r = 0,793–0,811 pour les corrélations entre *Suffisance des Revenus*, *Comparaison avec les Pairs* et *État Général de BEF*) mettent en lumière le potentiel manque de pouvoir discriminant de ces facteurs. Cependant, cela est prévisible dans la mesure où des aspects interreliés du BEF sont évalués. Dans un contexte où une échelle vise à mesurer un construit multidimensionnel, les études soutiennent néanmoins l'avantage de recourir à un modèle *exploratory structural equation modeling* (ESEM) plutôt qu'un modèle AFC (Alamer & Marsh, 2022; Asparouhov & Muthén, 2009; Marsh et al., 2009; Shao et al., 2022). Un modèle ESEM permet d'estimer les saturations croisées entre les items et les facteurs non ciblés (Morin et al., 2016a, 2020). Par exemple, dans un modèle AFC, l'item HM1 (« *Sometimes I miss funds to buy things I need* ») aura uniquement une saturation sur le facteur *Suffisance des Revenus*, alors que dans un modèle ESEM, cet item pourrait aussi avoir des saturations, le plus près possible de zéro, sur tous les autres facteurs non ciblés. Il a été démontré que cette approche contribue à une meilleure estimation des paramètres (p. ex., facteurs, corrélations, associations avec d'autres construits), même dans les cas où des saturations croisées se seraient avérées non nécessaires (Alamer & Marsh, 2022; Asparouhov et al., 2015; Mai et al., 2018; Shao et al., 2022).

Deuxièmement, bien qu'une des dimensions soit libellée « *État Général de BEF* », celle-ci ne fait pas référence à un construit global qui proviendrait d'une analyse statistique bifactorielle (AFC bifactorielle ou ESEM bifactoriel). La possibilité que le BEF soit conceptualisé comme un construit global (facteur global) qui reflète les éléments communs à l'ensemble des dimensions n'a pas été évalué dans l'étude de Sorgente et Lanz (2019), ni dans aucune autre étude. L'existence d'un tel facteur global aurait possiblement un apport plus vaste que la « simple » addition d'une dimension qualifiée de globale à d'autres dimensions plus spécifiques au BEF. L'identification d'une nouvelle dimension permettrait certes de raffiner l'opérationnalisation d'un construit, dans la mesure où l'existence d'un facteur global affecterait la conceptualisation même du construit à l'étude et ainsi la manière de l'appréhender. Sur le plan théorique, s'il s'avérait que le BEF reflète un facteur global comportant des facteurs spécifiques bien définis, cela aurait des implications appréciables dans la mesure où Sorgente et Lanz (2019) suggèrent que la dimension *État Général de BEF* est suffisante à elle seule pour évaluer le niveau global de BEF d'un individu. Notons que dans un champ de recherche plus vaste sur le bien-être général, les études de Morin et ses collaborateurs (p. ex., Morin et al., 2016b, 2017) démontrent que le recours à un modèle bifactoriel parvient à une meilleure adéquation avec les données, laissant présager qu'un tel modèle serait préférable pour le BEF. D'ailleurs, si l'adéquation des données au modèle bifactoriel est à privilégier, cela constituerait une preuve additionnelle à l'effet que le BEF caractérise un construit multidimensionnel.

Troisièmement, la MSFWBS a été développée à partir d'un échantillon de personnes dont l'âge variait entre 18 et 29 ans, puisqu'il s'agissait de la population d'intérêt des chercheuses, soit les adultes émergents. Malheureusement, le potentiel de généralisation de l'échelle auprès d'une population plus vaste en termes d'âge n'est pas connu et mérite d'être évalué afin d'accroitre sa portée. De plus, l'échantillon était relativement limité au niveau de l'âge des participants, faisant en sorte que l'étendue du revenu personnel n'était vraisemblablement pas aussi élevée que dans un échantillon plus diversifié, ce qui restreint, une fois de plus, son potentiel de généralisation.

Quatrièmement, la récence de la MSFWBS fait en sorte que les qualités psychométriques associées aux différentes dimensions n'ont pas été évaluées à de multiples occasions. L'échelle a été utilisée une seconde fois par Iannello et al. (2021), mais aucune analyse approfondie des qualités psychométriques de l'échelle n'a été effectuée. De plus, l'étude a été réalisée auprès d'adultes âgés entre 18 et 29 ans. Une nouvelle analyse approfondie des diverses dimensions apparait donc justifiée dans ce contexte et plus particulièrement pour la dimension *Comparaison avec les Pairs* uniquement proposée par Sorgente et Lanz (2019).

Cinquièmement, il n'existe actuellement aucune mesure de BEF en français. Cela limite donc son potentiel d'utilisation et par le fait même l'acquisition de connaissances auprès de populations francophones.

Objectif 1 de la thèse : Afin d'approfondir la compréhension du BEF, quant à sa conceptualisation et son opérationnalisation, il sera question d'évaluer les qualités psychométriques d'une version canadienne-française du MSFWBS auprès d'un échantillon d'adultes diversifié en termes d'âge, et ce, en comparant des modèles AFC, ESEM, AFC bifactoriel et ESEM bifactoriel.

Recours à des analyses centrées sur les variables

Jusqu'à maintenant, toutes les études qui se sont intéressées au BEF ont privilégié une approche centrée sur les variables, qui sous-entend que le patron des résultats est relativement homogène pour tous les individus issus d'une même population. Avec une telle approche, il est possible de déterminer le niveau moyen de BEF d'une population ainsi que son écart-type ou encore d'examiner les relations entre les variables pour cette même population. Toutefois, cette approche ne nous permet pas de savoir s'il existe des sous-groupes de la population ayant des caractéristiques particulières ou des profils différents (Morin et al., 2017). En termes de caractérisation du BEF, cela limite la compréhension de la dynamique sous-jacente à ses diverses dimensions. Pour y parvenir, il est nécessaire d'adopter une approche centrée sur la personne qui suppose la présence de sous-groupes d'individus qui partagent des caractéristiques similaires et qui se distinguent par rapport à d'autres profils. Dans un contexte où le BEF constituerait un construit multidimensionnel, cette approche prend toute son importance, puisqu'il est possible, par exemple, qu'un sous-groupe d'individus ait des scores faibles sur les trois premières dimensions du BEF et élevés sur les deux autres alors que cela pourrait être le

contraire pour un autre profil. Malgré le fait que des associations aient été observées auparavant entre le BEF et diverses variables prédictives, étant donné qu'elles s'appuyaient sur des analyses centrées sur les variables, il n'est pas possible de dégager les variables susceptibles de prédire l'appartenance à un profil plutôt qu'un autre. Bien qu'aucune étude centrée sur la personne portant sur le BEF n'ait été effectuée à ce jour, il est plausible que ses déterminants ne soient pas les mêmes pour tous les profils et que leur apport dans l'appartenance à des profils spécifique varie tout autant. Il en est de même également pour les associations avec les conséquences sur le plan du fonctionnement individuel. Une connaissance plus approfondie des principaux prédicteurs de divers profils serait également utile à l'élaboration d'éventuelles interventions visant à améliorer le BEF dont la configuration pourrait varier considérablement entre divers sous-groupes d'individus. En outre, une connaissance plus fine des associations entre les profils de BEF et les conséquences associées permettrait de mieux prioriser les interventions en mettant l'accent sur les profils où, par exemple, la détresse est plus élevée ou la satisfaction de vie est moindre.

Par ailleurs, les études ayant mis en relation le budget et le BEF sont rares et aucune n'a examiné si les profils de BEF étaient les mêmes pour les personnes qui utilisent un budget et celles qui n'en utilisent pas. Aussi, parmi les études plus récentes qui se sont intéressées au budget (p. ex., CFPB, 2015; Gutter & Copur, 2011; Muir et al., 2017; Ponchio et al., 2019), aucune n'a analysé en profondeur le concept du budget; la façon dont il est défini et s'il peut même constituer un élément caractéristique du BEF. Le cas

échéant, la configuration de certains profils pourrait dépendre de l'adoption ou non d'un budget. A contrario, si la configuration des profils ne diffère pas réellement selon l'adoption ou non d'un budget, cela tendrait à démontrer que le BEF est largement indépendant de certains comportements financiers dont les vertus sont amplement vantées.

Objectif 2 de la thèse : Identifier des profils de BEF et évaluer si ces profils varient selon l'adoption (ou non) d'un budget. La prise en compte du budget apparait nécessaire afin de s'assurer que la caractérisation des profils soit largement indépendante des comportements financiers. En d'autres mots, les profils observés devraient être les mêmes qu'une personne adopte ou non un budget. L'identification de profils de BEF devrait ensuite permettre l'examen des déterminants et des conséquences qui y sont associés.

Les prochains chapitres de la thèse présentent les deux articles visant à répondre aux deux objectifs de thèse. L'article intitulé « Financial Well-Being: Capturing an elusive construct with an optimized measure » (Aubrey et al., 2022; (voir Appendice B pour le matériel supplémentaire) a été publié dans la revue *Frontiers in Psychology* au mois d'août 2022. Quant au deuxième article intitulé « A Person-Centered Perspective on Financial Well-Being » (voir Appendice C pour le matériel supplémentaire), celui-ci sera soumis à la revue *Journal of Happiness Studies.*

Chapitre 1

Financial well-being: Capturing an elusive construct with an optimized measure

Financial Well-Being:
Capturing an Elusive Construct with an Optimized Measure

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Abstract

Several definitions and measures of financial well-being (FWB) have been proposed in the scientific literature. The *Multidimensional Subjective Financial Well-being Scale* (MSFWBS) stands out among these measures in its ability to account for the conceptual richness of FWB. However, the original validation study based on a confirmatory factor analytic model indicated that the factor structure of scores obtained on this instrument was acceptable at best, revealing factor correlations high enough to question the discriminant validity of the factors. To improve conceptual and operational clarity of FWB, this study assesses the psychometric properties of the MSFWBS among French-Canadian adults ($n = 454$), using statistical models better suited to the examination of multidimensional constructs (exploratory structural equation modeling – ESEM, and bifactor-ESEM). Our results supported a bifactor-ESEM representation of scores on the MSFWBS, and their measurement invariance across groups of participants defined on the basis of their age, sex, personal income and household income. Our results also supported the convergent (with other measures of FWB) and criterion-related (with measures of life satisfaction, perceived stress, and psychological distress) validity of scores obtained on the MSFWBS (particularly the global FWB factor). By providing an optimized measure of FWB, our study contributes to advancing research on FWB.

Keywords: financial well-being, scale validation, Multidimensional Subjective Financial Well-being Scale, bifactor, exploratory structural equation modeling

"*Don't be fooled, financial well-being can be measured*"
(Tison, 2019)

This quote, taken from a newspaper article, refers to a study carried out by the Financial Consumer Agency of Canada in 2019 to assess financial well-being (FWB). Journalists are not the only ones interested in FWB. Given the role attributed to FWB as a key predictor of employees' performance and health, this construct has been heavily marketed by international organizations (e.g., OECD/INFE, 2020), financial institutions (e.g., Desjardins, 2020; HSBC, 2021; Santander, 2020) and insurance companies (e.g., MetLife, 2019; SSQ, 2016; Sun Life Financial, 2020). Recognizing the importance of FWB, numerous employers are now offering financial wellness programs to their employees (Bank of America, 2021). Excellence Canada (2019) even issues certifications to organizations implementing best practices for supporting employees' well-being, including one specific to FWB. Despite this growing interest, the scientific community has been slow to follow suit, with research only recently beginning to address FWB (Nanda & Banerjee, 2021; Vörös et al., 2021).

Although FWB is likely to positively influence physical and psychological well-being (Netemeyer et al., 2018; Shim et al., 2009), efforts to properly operationalize this construct remain limited. For instance, although most operationalizations position FWB as a multidimensional construct, they do so based on inconsistent definitions in which the nature and number of dimensions vary greatly. This study seeks to fill this gap by refining and broadening our understanding of the multidimensional nature of FWB. To this end, we start by critically examining and comparing existing measures of FWB to identify the

core dimensions essential to a comprehensive operationalization of FWB. Of those measures, one stood out in its ability to provide a comprehensive coverage of FWB: the MSFWBS (Sorgente & Lanz, 2019). We thus proceeded to a more rigorous assessment of the psychometric properties of scores obtained on this measure. Our conceptual analysis and empirical examination of this promising measure help to increase our understanding of FWB, while proposing a foundation upon which to build further theoretical and empirical developments with practical implications.

From General Well-Being to Financial Well-Being

Unlike studies on general well-being, research on FWB is still fragmented and incomplete. This fragmentation can be partly attributed to the fact that the scientific community has not yet reached consensus on how to define FWB (Brüggen et al., 2017), leading to multiple inconsistencies in its operationalization (Sorgente & Lanz, 2017). More alarming is the fact that many studies have been carried out despite the lack of a clear conceptual definition of FWB (Brüggen et al., 2017). To address this issue, we first turn our attention to the definition of the broader general well-being construct, before addressing the operational definition of the more specific FWB construct.

What is General Well-Being?

General well-being is usually studied from two distinct perspectives: subjective well-being (SWB; e.g., life satisfaction, positive and negative affect, etc.) and psychological well-being (PWB; e.g., self-actualization, development, etc.) (Keyes et al., 2002). SWB

encompasses an affective and a cognitive component (Diener et al., 2017). The affective component refers to individuals' experience of pleasurable emotions not tainted by negative emotions, whereas the cognitive component refers to the extent to which they feel satisfied with specific areas of their life (e.g., employment, health) or with their life in general (Diener et al., 2017). SWB thus involves a hedonic view of well-being, centered on life enjoyment. In contrast, PWB entails an eudaimonic view of well-being, centered on positive functioning and fulfillment (Keyes et al., 2002). Ryff (1989) defined PWB as encompassing six components: (1) self-acceptance (i.e., positive regard towards oneself, acceptance of positive and negative aspects of self), (2) positive relations with others (i.e., warm and trusting relationships with others), (3) autonomy (i.e., a sense of independence and self-determination), (4) environmental mastery (i.e., sense of competence and discipline in managing one's environment), (5) life purpose (i.e., having oriented goals and objectives), and (6) personal growth (i.e., self-development and self-actualization). Research has generally shown that SWB and PWB represent distinct, but interrelated, constructs that together provide a comprehensive overview of general well-being (Chen et al., 2013; Disabato et al., 2016; Keyes et al., 2002). Keyes et al. (2002) proposed the label *optimized* well-being to describe the joint experience of SWB and PWB.

What is Financial Well-Being?

Although FWB has been operationalized in multiple manners, six operationalizations have stood out in research. The definition of FWB used in these six main operationalizations, as well as a comparison of their core components, are presented in Table 1.

Table 1

Definitions and dimensions of Financial Well-Being

Author(s)	Definition
Brüggen et al. (2017)	Individuals' perceptions of being able to sustain current and anticipated desired living standards and financial freedom.
Consumer Financial Protection Bureau (CFPB, 2015)	A state of being wherein individuals can fully meet their current and ongoing financial obligations, can feel secure in their financial future, and be able to make choices that allows them to enjoy life.
Kempson & Poppe (2017)	The extent to which individuals can meet all of their current commitments and needs comfortably and have the financial resilience to maintain this ability in the future.
Muir et al. (2017)	Financial wellbeing occurs when individuals are able to meet their expenses with some money left over, are in control of their finances, and feel financially secure now and in the future.
Netemeyer et al. (2018)	No original definition was proposed by the authors, who relied on definitions provided by others.
Sorgente & Lanz (2017, 2019)	Subjective financial well-being corresponds to individuals' emotional and cognitive evaluation of their own financial condition, that is to their subjective experiences of that condition.

	Dimensions						
Author(s)	Income adequacy	Life Enjoyment	Temporal (present *vs* future)	Relativity (*vs* others)	Control (financial management)	Cognitive evaluation (satisfaction)	Emotional evaluation (stress, anxiety)
Brüggen et al. (2017)	X	X	X			X	
CFPB (2015)	X	X	X			X	X
Kempson & Poppe (2017)	X	X	X			X	
Muir et al. (2017)	X	X	X		X	X	X
Netemeyer et al. (2018)	X		X		X	X	X
Sorgente & Lanz (2017, 2019)	X		X	X	X	X	X

Examining this Table reveals four common characteristics. First, all of these definitions highlight the multidimensional nature of FWB. Second, all definitions note that FWB entails a perception of having access to an income seen as adequate to meet one's needs. Third, all definitions entail a temporal perspective focused on one's future FWB expectations. Fourth, all definitions emphasize the idea that FWB involves a cognitive evaluation of one's financial situation as satisfactory. Beyond these common characteristics, some other components are less consensual. Thus, only four, out of six, definitions refer to FWB as a state characterized by the perceived ability to enjoy life, or as a state involving an otherwise positive emotional experience. Likewise, only three definitions highlight the importance of being in control of one's financial situation. In these definitions, this sense of control is intimately related to the emotional component of FWB, which is consistent with the well-documented role of control in stress perceptions (e.g., Averill, 1973; Lazarus & Folkman, 1984; Sherman & Mehta, 2020). However, despite this connection, this sense of control remains distinct from this emotional component and involves individuals' ability to plan and manage their finances on their own. Finally, only Sorgente and Lanz (2019) incorporated a social comparison component to their operationalization, according to which FWB is seen as depending in part from individuals' assessment of their financial situation in a positive light relative to that of others. Indeed, these authors note that peer comparisons seem particularly relevant for emerging adults (aged 18 to 29), which were the focus of their work and might explain why others did not consider this facet of FWB. Others also noted the relevance of social

comparison when referring to FWB **(**e.g., Brown & Gray, 2016; Porter & Garman, 1993), thus highlighting the broad relevance of this dimension for FWB measurement.

None of these operationalizations considered individuals' objective financial situation (e.g., income level, net worth, etc.) as the sole, or even as a core, component of FWB. Rather, they all emphasized the multidimensional and subjective nature of FWB as a state encompassing cognitive and affective components. This recognition suggests a conceptual similarity between FWB and the more specific construct of financial satisfaction (Sorgente & Lanz, 2017), reflecting individuals' cognitive assessment of their financial situation as satisfactory (e.g., Brown et al., 2014; Brzozowski & Spotton Visano, 2019; Joo & Grable, 2004; Plagnol, 2011). By incorporating an affective and temporal perspective, these definitions thus position FWB as more generic than financial satisfaction.

Based on this synthesis, we define FWB as a positive psychological state characterized by a sense of contentment about one's personal financial situation and by a positive perception of one's financial situation as able to actively meet one's current needs and future aspirations. This operational definition is aligned with the typical definition of general well-being as encompassing a hedonic and an eudaimonic component (Keyes et al., 2002), while being specific to one's financial situation.

How is Financial Well-Being Assessed?

With the ambiguity surrounding the operationalization of FWB, it is not surprising that FWB has been measured in many different ways across studies, making it hard to compare results. Based on the type of measure used, studies can be grouped into four categories, based on whether they relied on: (1) an in-house single-item measure (e.g., Brown & Gray, 2016; Lui et al., 2016), (2) an in-house measure for which psychometric properties remain unknown (e.g., Burcher et al., 2018; Momentum & UNISA, 2011; Serido & Shim, 2017), (3) a measure for which information on psychometric properties is provided (e.g., factor structure, construct validity) (CFPB, 2017; Kempson & Poppe, 2017; Netemeyer et al., 2018; Prawitz et al., 2006; Sorgente & Lanz, 2019), and (4) a measure adapted from those included in the previous category, and thus not directly relevant in their own right (e.g., Brenner et al., 2020; Ponchio et al., 2019; Uktarsh et al., 2020).

Among the measures forming the third category (for which psychometric properties are reported), two rely on a one-dimensional structure of FWB (CFPB, 2017; Prawitz et al., 2006), which represents a major shortcoming given the emerging consensus outlined in the previous section regarding the multidimensional nature of FWB. Moreover, albeit relying on measures specifically designed to reflect multiple components of FWB, CFPB (2017), Kempson and Poppe (2017) and Prawitz et al. (2006) all failed to find support for the multidimensional nature of these measures, rather providing evidence for a unidimensional structure. In contrast, Netemeyer et al.'s (2018) *Perceived Financial*

Well-Being Scale (PFWBS) and Sorgente and Lanz's (2019) MSFWBS were both found to follow a multidimensional structure. However, Netemeyer et al.'s PFWBS only focuses on two dimensions of FWB (i.e., current money management stress and expectations in terms of future financial security). In contrast, Sorgente and Lanz's (2019) MSFWBS provides a way to differentiate between five components of FWB via a total of 25 items: (1) General Subjective Financial Well-Being (GS), (2) Money Management (MM), (3) Peer Comparison (PC), (4) Having Money (HM), and (5) Financial Future (FF).

As a result, the MSFWBS not only differentiates between respondents' current (GS, MM, PC, HM) and future (FF) perspectives, it also incorporates affective and cognitive components of FWB, while being the only one to consider social comparisons (PC). Through its ability to differentiate between cognitive and affective components of FWB, the MSFWBS thus shares a natural connection with generic measures of well-being (affective FWB: Hedonic SWB; cognitive FWB: Eudaimonic PWB), consistent with our positioning of FWB as a component of general well-being. In fact, the MSFWBS is related to the only operationalization included in Table 1 that covers all of the key elements proposed to be associated with FWB, with a single exception (i.e., life enjoyment). Indeed, unlike other conceptualizations of FWB as well as Keyes et al. (2002) representation of optimized well-being, Sorgente and Lanz (2019) did not consider the financial ability to make choices allowing one to enjoy life as a distinct component of FWB. However, despite not being reflected as a specific dimension of FWB, enjoyment is still considered in the MSFWBS in the form of indicators of the affective GS dimension (i.e., "I have

enough money to pursue my passions" and "I have enough funds to enjoy my life"). For all of these reasons, the MSFWBS was retained for the present investigation.

The MSFWBS

Despite its interest, validity evidence for the MSFWBS currently only comes from a sample of emerging adults recruited in Italy and Portugal **(**Sorgente & Lanz, 2019)**.** As a result, the extent to which the psychometric properties of scores on this instrument would generalize to a wider age range and to different cultural or linguistic groups remains unknown. Considering the glass ceiling to which women still tend to be exposed in modern organizations (Stamarski & Son Hing, 2015), the widespread range of income discrepancies observed in the workplace, and the key influence of income on different measures of general well-being (Kahneman & Deaton, 2010), it appears critical to verify whether the measurement of FWB can be expected to generalize as a function of these characteristics.

Moreover, evidence for the factor validity of scores on the MSFWBS provided by Sorgente and Lanz (2019) was obtained through confirmatory factor analyses (CFA), which revealed factor correlations that were high enough to call into question the discriminant validity of some factors (i.e., $r = .793$ to .811 for the correlations between HM, PC, and GS). These correlations, however, are not surprising given that the MSFWBS is specifically designed to assess conceptually related facets of FWB. In this situation, statistical research has revealed that measurement models benefit from relying

on exploratory structural equation modeling (ESEM) to achieve a more accurate representation of the structure of multidimensional instruments (Alamer & Marsh, 2022; Asparouhov & Muthén, 2009; Marsh et al., 2009; Shao et al., 2022). ESEM makes it possible to freely estimate all cross-loadings between items and non-target factors (Morin et al., 2016a, 2020). This less constrained estimation procedure makes it possible to assess factors using all of the relevant information included in all of the items, and has been demonstrated to result in more accurate estimates of the factors, their correlations, and their associations with other constructs, while remaining unbiased when cross-loadings prove to be unnecessary (Alamer & Marsh, 2022; Asparouhov et al., 2015; Mai et al., 2018; Shao et al., 2022). For instance, although the item “I have enough money to pursue my passions" is an indicator of the GS subscale, incorporating cross-loadings would make it possible to acknowledge that this item also incorporates a future perspective (FF) and the availability of enough money (HM) resulting from an efficient management of one’s assets (MM), although these additional associations are likely to be much smaller than the one involving the GS factor. Moreover, the estimation of ESEM measurement models using target rotation procedures (Asparouhov & Muthén, 2009; Browne, 2001) makes it possible to rely on an a priori specification of the main indicators of each factor while targeting all cross-loadings to remain as close to 0 as possible.

Moreover, although the name of the GS factor suggests that it might reflect the globality of FWB, this factor is rather conceptualized as reflecting a more hedonic form of subjective financial well-being. For instance, this factor is the only one who

incorporates items related to life enjoyment, seen by some as critical to FWB (Brüggen et al., 2017; CFPB, 2015), as well as items reflecting the affective nature of FWB ("I am constantly stressed because of my financial situation" and "I am calm about my financial situation"). Thus, despite Sorgente and Lanz's (2019) suggestion that this factor could be used as a single indicator of FWB in studies seeking a shorter measure, doing so would involve ignoring the eudaimonic components of FWB, as well as the future orientation component highlighted as critical in many previous operationalizations (see Table 1).

The distinctive nature of the GS factor does not mean that the MSFWBS is unable to provide evidence of respondents' global levels of FWB. Indeed, this instrument is specifically designed to assess what are seen as different components of a single overarching construct. In this situation, previous research conducted on the construct of general well-being (e.g., Morin et al., 2016b, 2017) have demonstrated the value of relying on a bifactor-ESEM representation to adequately capture the inherent duality (global/specific) of this construct. More precisely, a bifactor model (which can be estimated with CFA or ESEM) would directly estimate participants' global levels of FWB from the variance shared among all items used in the questionnaire, while also providing a non-redundant estimate of the specificity associated with each subscale (HM, PC, GS, MM, and FF) beyond the variance already explained by the G-factor (Morin et al., 2016a, 2020).

The Present Study

This study aimed to conduct an in-depth examination of the psychometric properties of scores obtained on the MSFWBS. First, we examined the factor structure of these scores while contrasting CFA, bifactor-CFA, ESEM and bifactor-ESEM solutions. Second, we examined the measurement invariance of these scores across subsamples defined based on age, sex, personal income, and household income. Third, we examined the convergent validity of these scores in relation to other validated measures of FWB: (a) the PFWBS (Netemeyer et al., 2018), (b) the Financial Well-Being Scale (CFPB, 2017), and (c) the *Financial Anxiety Scale* (Shapiro & Burchell, 2012). We finally examined the criterion-related validity of these scores in relation to validated measures of theoretically-related constructs (i.e., perceived stress, psychological distress and life satisfaction). Indeed, FWB has been shown to be related to general well-being (Brüggen et al., 2017; Muir et al., 2017; Netemeyer et al., 2018), life satisfaction (Brzozowski & Spotton Visano, 2019; Shim et al., 2009; Sorgente & Lanz, 2019), and psychological distress (Espinosa & Rudenstine, 2020).

Method

Procedure and Participants

Participants were recruited from a medium-sized university located in the Canadian Province of Quebec and were recruited using direct contacts and Facebook ads. A total of 454 participants (M_{age} = 34.9 years; 18 to 81 years) including 308 women (67.8%) and 146 men (32.2%), completed an online questionnaire in the Fall of 2019. As an incentive,

participants were told that 1% of them would randomly receive a compensation of $50 CAD for their participation. A significant proportion (33.2%) of respondents were under the age of 25 years and 46% of them were students. Emerging adults (aged 18 to 29), the only age group studied by Sorgente and Lanz (2019), thus represented 45.8% of our sample. In terms of personal gross (pre-tax) income, 47.6% of the respondents earned less than $40,000 CAD per year, and 55.6% had a gross household income of less than $90,000 CAD, while 30% had a gross household income greater than $120,000 CAD. When compared to the 2019 Quebec population (Institut de la statistique du Québec, 2020), our sample included more women (67.8% *Vs* 50%), had a higher level of education (66% *Vs* 32.8% had a university degree), and was younger (M_{age} = 34.9 years *Vs* 42.4 years). Our income measure relied on interval scaling, which made it impossible to determine participants' exact income. However, considering that 36.7% of the Quebec population reported a net (after-tax) household income over $60,000 CAD, it seems reasonable to conclude that the income of our sample is slightly higher given that 45% of our respondents reported a gross (before tax) personal income higher than $90,000 CAD. All participants voluntarily provided informed consent for their participation and were ensured of the confidentiality of their responses. The study protocol was approved by the research ethics committee of the targeted University.

Measures

Measures were adapted to French using a standardized translation back translation procedure involving bilingual members of the research team (Hambleton, 2005). Model

based composite reliability (ω) is reported later for all instruments when we describe their final measurement models.

Financial well-being

Participants rated the 25 items (reported in Appendix) from the MSFWBS. They also completed the two five-item subscales from the PFWBS (future expectations, α = .872; e.g., "I am securing my financial future"; current situation, α = .840; e.g., "My finances control my life"), the 10 items from the CFPB's financial well-being scale (α = .890; e.g., "I could handle a major unexpected expense") and eight items (out of 10) of the FAS (α = .884; e.g., "I prefer not to think about the state of my personal finances"). Although the original FAS includes 10 items, two of them were excluded in our study as they were only relevant to student populations ("I do not think I am doing as well as I could academically because I worry about money" and "I am worried about the debt I will have when I complete my university education"). All items were rated on a five-point scale (*absolutely false* [1] to *absolutely tru*e [5]). Importantly, four items are common to the PFWBS and CFPB. We describe in the analysis section how this specificity was handled in the analyses.

Criterion Measures

Participants rated the 14 items (e.g., "In the last month, how often have you felt that you were on top of things?") from the *Perceived Stress Scale* (Cohen et al., 1983) (α = .871) using a five-point scale ranging from *never* (0) to *very often* (4). They also rated

the six items (e.g., “During the last 30 days, about how often did you feel so depressed that nothing could cheer you up?”) from Kessler et al.’s (2002) *Psychological Distress Scale* (K6) (α = .873) using a five-point scale ranging from *all of the time* (1) to *none of the time* (5). Finally, they rated the five items (e.g.,“I am satisfied with my life”) from the *Satisfaction with Life Scale* (Diener et al., 1985) (α = .904) using a seven-point scale ranging from *strongly disagree* (1) to *strongly agree* (7).

Analyses

Model Estimation

All analyses were conducted using the Mplus 8.4 statistical package (Muthén & Muthén, 2019) and the maximum likelihood robust estimator (MLR), which is robust to non-normality (Rhemtulla et al., 2012). Due to the way our online questionnaire was programmed, there were no missing responses. The degree to which each model was able to provide an adequate approximation of the data was assessed using several statistical indicators: the chi-square test of exact fit (χ^2), the *Comparative Fit Index* (CFI), the *Tucker-Lewis Index* (TLI), as well as the *Root Mean Square Error of Approximation* (RMSEA) and its 90% confidence interval. Given the known oversensitivity of the χ^2 to sample size, minor misspecifications, and even omitted variables (e.g., Marsh et al., 2005) this indicator will be reported, but not interpreted. Values greater than .90 for the CFI and TLI are considered acceptable, but these values should ideally be greater than .95 (Hu & Bentler, 1999; Marsh et al., 2005). Likewise, RMSEA values lower than .08 are acceptable but should ideally be lower than .06 (Hu & Bentler, 1999; Marsh et al., 2005).

Main Measurement Models

The structure of participants' responses to the MSFWBS was investigated by comparing CFA, bifactor-CFA, ESEM, and bifactor-ESEM solutions. In the CFA solution, MSFWBS responses were assumed to reflect five correlated factors (HM, PC, GS, MM, and FF), each factor was only defined by its a priori indicators, and no cross-loadings were allowed. The ESEM solution involved the assessment of the same five factors. However, all cross-loadings were freely estimated but targeted to take a value as close to zero as possible via an oblique target rotation procedure (Browne, 2001). In the bifactor-CFA solution, MSFWBS responses to all items were allowed to define a global FWB factor (G-factor), in addition to their a priori factors (S-factors; HM, PC, GS, MM, and FF). As in CFA, no cross-loadings were allowed in this model. Finally, the bifactor-ESEM solution, the G- and S-factors were specified as in the bifactor-CFA solution, but all cross-loadings were freely estimated between the S-factors, although they were again targeted to take a value as close to zero as possible via an orthogonal bifactor target rotation procedure (Reise et al., 2011). According to typical bifactor assumptions, both bifactor solutions were specified as orthogonal (the factors were uncorrelated) (Morin et al., 2020). One orthogonal method factor was added to all models to control for the methodological artefact related to the negative wording of seven of the items (marked in italics in Appendix) (Marsh et al., 2010).

The comparison of these four models was done following a sequential strategy outlined by Morin et al. (2016a, 2016b, 2020). The CFA and ESEM solutions were first

contrasted to assess the relevance of incorporating cross-loadings. Observing that the ESEM solution is able to achieve a higher level of fit to the data, that the factor correlations are reduced in the ESEM solution relative to its CFA counterpart, that all factors remain equally well-defined in both solutions, and that ESEM cross-loadings remain either small or easily explainable can all be taken as evidence favoring the ESEM solution. The observation of multiple non-negligible cross-loadings in ESEM may also suggest the presence of an unmodelled G-factor (i.e., the need for a bifactor representation). The retained solution (CFA or ESEM) was then contrasted with its bifactor counterpart. Observing a higher level of fit associated with the bifactor solution, the presence of a well-defined G-factor coupled with at least a subset of well-defined S-factors, and reduced cross-loadings relative to the ESEM solution can all be taken as evidence supporting the bifactor solution.

Measurement Invariance

The measurement invariance of the retained solution was tested according to the following sequence (Millsap, 2011): *configural* (same model with no additional constraint), *weak* (equal factor loadings), *strong* (equal factor loadings and item intercepts), *strict* (equal factor loadings, item intercepts and item uniquenesses), latent variance-covariance (equal factor loadings, item intercepts, item uniquenesses, and latent variances and covariances), and latent mean invariance (equal factor loadings, item intercepts, item uniquenesses, latent variances and covariances, and latent means). These tests of measurement invariance were conducted across subgroups of participants defined

on the basis of: (a) sex (males [*n* = 146] *Vs* females [*n* = 308]), (b) age (emerging adults aged 18 to 29 [*n* = 203] *Vs* adults aged over 30 [*n* = 240], (c) personal income ($40,000 CAD or less [*n* = 215 *Vs* more than $40,000 CAD [*n* = 235]), (d) household income ($90,000 CAD or less [*n* = 250] *Vs* more than $90,000 CAD [*n* = 200]). Model comparisons relied on an examination of changes in CFI, TLI and RMSEA between each model and the previous one. A decrease in the value of the CFI or TLI lower or equal to .010 or an increase in the value of he RMSEA higher or equal to .015 for the RMSEA was considered to support the invariance (Chen, 2007; Cheung & Rensvold, 2002; Marsh et al., 2005).

Convergent Validity

To assess convergent validity of scores obtained on the MSFWBS, we estimated latent correlations between the MSFWBS factors (from the optimal model retained previously) and latent factors representing the other measures of FWB (PFWBS, CFPB, FAS). In this model, the four items used in both the PFWBS and CFPB were removed from the CFPB, the PFWBS was modeled according to a bifactor-ESEM operationalisation matching that retained for the MSFWBS, and the CFPB (ω = .861 for the reduced version and .894 for the full version) and FAS (ω = .896) were each modelled as a single factor. Like in the main model, an orthogonal method factor was used to account for the negative wording of 23 items (7 MSFWBS items, 3 items from the shortened CFPB, 5 PFWBS items, and all 8 FAS items). The parameter estimates from the measurement component of this model, in relation to the convergent measures, are

reported in Table S3 of the online supplements. These results support the proper definition of all factors, while also indicating that the PFWBS items related to future expectations mainly serve to define the global FWB, leaving little specificity associated with the future expectations S-factor. To assess the convergent validity of the MSFWBS factors in relation to the complete CFPB, a second model was estimated including only the MSFWBS factors and the CFPB (a single factor including all items). This model also included an orthogonal method factor related to the 13 negatively-worded items (7 MSFWBS items and 6 CFPB items).

Criterion-Related Validity

The criterion-related validity of scores obtained on the MSFWBS was assessed by allowing these scores to predict scores on three latent CFA factors representing the outcome variables (perceived stress: $\omega = .887$; psychological distress: $\omega = .904$; life satisfaction: $\omega = .914$) in a fully latent predictive model. The negative wording of the seven MSFWBS items and of seven items from the *Perceived Stress Scale* was controlled as in the in the previous stages of the analyses. The parameter estimates from the measurement part of this model, in relation to the criterion measures, are reported in Table S4 in the online supplements and support the proper definition of all factors.

Results

Factor Structure of Scores Obtained on the MSFWBS

The model fit associated with the alternative MSFWBS measurement models are reported in Table 2, and parameter estimates from these models are reported in Tables 3 (CFA and ESEM factor correlations), 4 (factor loadings and item uniquenesses), and 5 (omega coefficients of composite reliability). All models achieved an acceptable (CFA, Bifactor-CFA, ESEM) to excellent (Bifactor-ESEM) level of fit to the data. Following the sequential strategy outlined by Morin et al. (2016a, 2016b, 2020), we first considered the CFA and ESEM solutions. Although both solutions resulted in an acceptable level of fit, the fit of the ESEM solution was substantially higher than that of the CFA solution (ΔCFI = +.039, TLI = +.023, RMSEA = -.008). Moreover, the factor correlations were substantially reduced in ESEM (r = 345 to .696; M_r = .534) relative to CFA (r = .669 to .903; M_r = .795). Finally, with few exceptions associated with the ESEM solution, both the CFA ($|\lambda|$ = .570 to .918; $M_{|\lambda|}$ = .790) and ESEM ($|\lambda|$ = .069 to .993; $M_{|\lambda|}$ = .561) solutions resulted in factors that were reasonably well-defined and reliable (CFA: ω = .860 to .944; ESEM: ω = .758 to .901).

Table 2

Fit of the Alternative Measurement Models Estimated for the MSFWBS

	χ2	df	CFI	TLI	RMSEA	RMSEA 90% CI
CFA	790.548*	258	.917	.903	.067	.062; .073
Bifactor-CFA	679.328*	243	.932	.916	.063	.057; .069
ESEM	460.046*	178	.956	.926	.059	.052; .066
Bifactor-ESEM	327.082*	158	.974	.950	.049	.041; .056

Note. * $p < .01$; χ^2: robust chi-square test of exact fit; *df*: degrees of freedom; CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; RMSEA: Root Mean Square Error of Approximation; 90% CI: 90% confidence interval; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling.

Table 3

Factor Correlations for the CFA and ESEM Measurement Models Estimated for the MSFWBS

	CFA				ESEM			
	HM	PC	GS	MM	HM	PC	GS	MM
PC	-.801**				-.487**			
GS	-.806**	.856**			-.612*	.696**		
MM	-.669**	.720**	.879**		-.345**	.347	.579	
FF	-.675**	.772**	.871**	.903**	-.534**	.498	.691**	.546*

Note. * $p \leq .05$; ** $p \leq .01$; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial future.

Table 4

Standardized Parameter Estimates from the Alternative Measurement Models Estimated for the MSFWBS

	CFA		Bifactor CFA			ESEM						Bifactor ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
HM1	.858	.256	-.623	*.429*	.230	**.609**	*-.047*	*-.176*	*.027*	*-.075*	.230	**-.670**	**.428**	*-.001*	*.020*	*.073*	*-.019*	.228
HM2	.720	.299	.590	*.076*	.287	***.111***	*-.282*	*-.489*	*.137*	*-.007*	.287	**-.692**	***.024***	*.041*	*.119*	.185	*.080*	.276
HM3	.869	.243	-.649	*.602*	.184	**.763**	*-.047*	*-.062*	*-.093*	*.008*	.184	**-.678**	**.537**	*.030*	*-.013*	*-.006*	*.022*	.184
PC1	.866	.250	.744	-.582	.285	*-.177*	***.599***	*-.076*	*.171*	*.181*	.285	**.757**	*-.065*	**-.385**	*-.066*	*.035*	*.044*	.268
PC2	-.748	.412	-.610	.299	.419	*.195*	***-.497***	*-.037*	*-.015*	*-.114*	.419	**-.643**	*.086*	**.345**	*.003*	.090	*-.009*	.385
PC3	-.713	.137	-.577	-.290	.202	*-.057*	**-.665**	*-.257*	*.095*	*-.013*	.202	**-.675**	*-.110*	**.298**	.171	.193	.102	.216
GS1	.776	.398	.706	.337	.334	*-.057*	.399	***.372***	*.049*	*.066*	.334	**.807**	*.030*	*-.078*	***-.223***	*-.038*	*-.053*	.288
GS2	-.703	.477	-.645	-.208	.442	.200	*-.166*	**-.460**	*-.022*	*.028*	.442	**-.706**	*.087*	*.044*	***-.016***	*.061*	*.079*	.443
GS3	.800	.360	.732	.331	.351	-.165	*.140*	**.519**	*.065*	*.040*	.351	**.803**	*-.055*	*.002*	***-.005***	*-.022*	*-.040*	.350
GS4	.849	.279	.796	.306	.257	*.082*	*.161*	**.602**	*.103*	*.166*	.257	**.850**	.133	*-.004*	***.022***	*.014*	*.034*	.258
GS5	-.663	.556	-.622	*-.157*	.431	*.141*	*.252*	***-.765***	*-.062*	*.044*	.431	**-.646**	*.047*	*-.156*	***-.286***	*.013*	*.062*	.405
GS6	.825	.319	.823	*.146*	.283	*.003*	*-.077*	***.606***	*.243*	*.164*	.283	**.805**	*.072*	*.034*	***.269***	.127	*.065*	.253
GS7	.666	.557	.648	*.127*	.440	-.479	*.128*	***.069***	*.042*	.183	.440	**.660**	-.327	*-.095*	***.034***	*-.023*	.092	.438
GS8	.888	.211	.834	.303	.218	*-.088*	*.113*	**.593**	*.149*	*.077*	.218	**.877**	*.012*	*-.022*	***.103***	*.032*	*-.015*	.218
GS9	.869	.244	.816	.308	.202	*.003*	*-.075*	***.834***	*.091*	*.076*	.202	**.866**	*.079*	*.093*	***.215***	*-.012*	*-.014*	.188
GS10	.833	.306	.759	.369	.280	*-.062*	*.173*	**.604**	*.013*	*.092*	.280	**.851**	*.022*	*.031*	***-.053***	*-.070*	*-.019*	.266

Table 4

Standardized Parameter Estimates from the Alternative Measurement Models Estimated for the MSFWBS (continued)

	CFA		Bifactor CFA			ESEM						Bifactor ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
MM1	.863	.256	.778	-.480	.234	*-.005*	*.080*	*.171*	**.682**	*.062*	.234	**.727**	.068	*.063*	*-.047*	**.535**	*.013*	.174
MM2	.809	.346	.746	.332	.353	*-.041*	*.030*	*.378*	**.464**	*.022*	.353	**.748**	*.035*	*.140*	*-.071*	**.339**	*-.029*	.298
MM3	.840	.295	.844	*.092*	.262	*-.179*	*-.023*	*.148*	**.439**	.299	.262	**.757**	*-.089*	*-.030*	.193	**.307**	.187	.251
MM4	.918	.157	.851	.311	.170	*-.035*	*.038*	*.234*	**.618**	.139	.170	**.788**	*.038*	*.035*	*.072*	**.438**	*.072*	.174
FF1	.748	.440	.694	.309	.391	*.061*	.176	*-.018*	*.083*	**.676**	.391	**.651**	*.056*	*-.098*	*-.016*	*.077*	**.406**	.392
FF2	.641	.589	.583	.660	.286	*.044*	*-.106*	*-.044*	*-.107*	**.993**	.286	**.543**	*-.007*	*.077*	*-.010*	*.004*	**.645**	.282
FF3	.570	.676	.529	.512	.427	*-.024*	*-.078*	*.138*	-.252	**.797**	.427	**.550**	*-.046*	*.120*	*-.087*	-.134	**.507**	.398
FF4	.850	.278	.853	*-.077*	.262	*-.052*	*.165*	*.089*	.544	**.203**	.262	**.750**	*.027*	*-.153*	*.170*	.362	***.110***	.242
FF5	.876	.233	.830	.133	.279	*-.018*	*.105*	*.030*	.371	**.490**	.279	**.733**	*.024*	*-.126*	*.157*	.262	**.305**	.260

Note: λ: Standardized factor loading; δ: Standardized item uniquenesses; G-: Global factor from a bifactor measurement model; S-: Specific factors from a bifactor measurement model; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial Future; Item labels are reported in Appendix; Main ESEM (target) factor loadings are bolded; Non statistically significant parameters are marked in italics ($p > .05$).

Table 5

Composite Reliability (ω) Estimates from the Alternative Measurement Models Estimated for the MSFWBS

	CFA	Bifactor CFA	ESEM	Bifactor ESEM	Final Bifactor-ESEM Solution
G-Factor		.977		.979	.979
HM	.882	.636	.758	.587	.620
PC	.871	.602	.774	.549	.554
GS	.944	.675	.901	.326	.388
MM	.918	.592	.826	.745	.788
FF	.860	.635	.858	.712	.720

Note. CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial Future; G-factor: Global factor from a bifactor measurement model.

Moreover, the ESEM solution evidenced multiple statistically significant cross-loadings ($|\lambda|$ = .003 to .544; $M_{|\lambda|}$ = .120), thus supporting the need to account for this form of multidimensionality (Asparouhov et al., 2015), and even suggesting the possible presence of an unmodelled G-factor (Morin et al., 2020). Some cross-loadings, however, were higher than expected. For instance, item HM2 presented cross-loadings (-.282, -.489, and -.287) higher than its main loading (.111) on three other factors, suggesting that this item might be a better indicator of global levels of FWB than of any specific factor. Similarly, items GS1, MM2, and FF5 had a substantial cross-loading (respectively .399, .378, and .371) on one secondary factor, even though these cross-loadings were of a similar magnitude, or slightly lower, than their main loading (respectively .372, .464, and .490). Once again these cross-loadings suggest that these items might contribute to the

definition of global levels of FWB more than to the definition of their own factors. More problematic were items GS7 and FF4, presenting a cross-loading (respectively -.479 and .544) higher than their main loading (respectively .069 and .203), suggesting that these items might have been assigned to the wrong factor. Item GS7 **(***I have enough funds for everything I need*) corresponded more closely to the HM factor than to the GS factor, whereas FF4 **(***I am satisfied with the way I am preparing myself to reach my long-term goals [for example. to buy a car]***)** correspond to the MM factor more than to the FF factor. Interestingly, this interpretation is well-aligned with the content of these items, suggesting that our results might be more aligned with the proper assignment of these items to, respectively, factors HM and MM.

These results all support the value of an ESEM solution, which was retained for comparison with the bifactor-ESEM solution. This solution resulted in an excellent level of fit to the data, and in a much higher level of fit than the ESEM solution (ΔCFI = +.018, TLI = +.024, RMSEA = -.010). It also resulted in the estimation of a very well-defined (|λ| = .543 to .877; $M_{|\lambda|}$ = .729) and reliable (ω = .979) G-factor, consistent with the idea that all items contribute to the definition of global levels of FWB. This solution also resulted in S-factors representing participants' specific levels of items HM (|λ| = .024 to .537; $M_{|\lambda|}$ = .330; ω = .587), PC (|λ| = .298 to .385; $M_{|\lambda|}$ = .343; ω = .549), MM (|λ| = .307 to .535; $M_{|\lambda|}$ = .405; ω = .745), and FF (|λ| = .110 to .645; $M_{|\lambda|}$ = .395; ω = .712) that were reasonably well-defined by most of their items. Although these S-factors remained more weakly defined than the G-factor, this is typical of bifactor models where S-factors reflect

only what is uniquely shared by these items once the variance explained by the G-factor has been accounted for (i.e., a form of deviation, or imbalance, from participants' global levels of FWB; Morin et al., 2020). Indeed, and as noted by others (e.g., Morin et al., 2020; Perreira et al., 2018), reliability estimates are almost systematically lower in a bifactor solution were item-level true score (i.e., reliable) variance is used to define two distinct factors (thus is essentially divided in two), whereas item-level random measurement error is not. For this reason, these authors suggest that the omega coefficient of composite reliability associated with S-factors from a bifactor model should be considered to be satisfactory as long as they remain higher than .500. In contrast and tentatively supporting Sorgente and Lanz's (2019) assertion that this factor could be used to provide a quick summary of participants' global levels of FWB, the GS items did not seem to retain any specificity beyond their role in the definition of the G-factor ($|\lambda|$ = .005 to .286; $M_{|\lambda|}$ = .123; ω = .326).

In this bifactor-ESEM solution, cross-loadings also appeared to be substantially lower than in ESEM ($|\boldsymbol{\lambda}|$ = .001 to .362; $M_{|\lambda|}$ = .071). Furthermore, this solution also supported our previous expectations that items HM2, GS1, MM2, and FF5 (as well as many other items) would prove to be stronger indicators of the global factor (respectively -.692, .807, .748, and .733) than of their a priori specific factors (respectively .024, -.223, .339, .305), thus explaining their ESEM cross-loading pattern. However, the problems related to the association of items GS7 and FF4 with the wrong factor (respectively -.327 and .362) relative to their own factor (respectively .034 and .111) remained.

Overall, these results supported the superiority of the bifactor-ESEM solution, while suggesting that two of the items might have been associated with the wrong factors. As a result, we considered an alternative bifactor-ESEM factor structure in which item GS7 was associated with the S-factor HM (rather than GS) and item FF4 was associated with the S-factor MM (rather than FF). It is important to note that, in bifactor-ESEM, each item is allowed to load on all six factors (the G-factor and the five S-factors), meaning that alternative models in which the items are targeted to correspond to other factors, as long as they include the same items and the same number of factors, are equivalent models (Herschberger, & Marcoulides, 2013), and will thus always result in the same level of fit to the data and degrees of freedom. The fit of this alternative model is thus identical to that of the previous bifactor-ESEM solution. The same applies to alternative ESEM solutions, but not to alternative CFA and bifactor-CFA solutions. For interested readers, we re-estimated all four models using the new specification of these two items. These additional results are reported in Tables S5 to S8 of the online supplements and support our conclusions regarding the superiority of the bifactor-ESEM solution. The parameter estimates from the final bifactor-ESEM solution are reported in Table 6 and support our previous conclusions, revealing a strong global factor well-defined by most indicators (|λ| = .544 to .873, M = .727; ω = .979), accompanied by reasonably well defined HM (|λ| = .003 to .546; $M_{|\lambda|}$ = .339; ω = .620), PC (|λ| = .309 to .379; $M_{|\lambda|}$ = .346; ω = .554), MM (|λ| = .325 to .528; $M_{|\lambda|}$ = .412; ω = .788), and FF (|λ| = .291 to .645; $M_{|\lambda|}$ = .462; ω = .720) S-factors.

Table 6

Standardized Parameter Estimates from the Final Bifactor-ESEM Solution for the MSFWBS

Item (original)	Item (Final)	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
HM1	HM1	**-.665**	**.437**	*-.009*	*.015*	*.063*	*-.018*	.228
HM2	HM2	**-.697**	***.030***	*.051*	*.075*	.190	*.073*	.276
HM3	HM3	**-.670**	**.546**	*.014*	*-.001*	*-.019*	*.028*	.184
GS7	HM4	**.654**	**-.342**	*-.091*	*.031*	*.002*	*.088*	.438
PC1	PC1	**.755**	*-.085*	**-.379**	*-.074*	*.064*	*.033*	.268
PC2	PC2	**-.641**	*.108*	**.350**	*-.001*	*.057*	*-.007*	.385
PC3	PC3	**-.681**	*-.098*	**.309**	.135	.188	.099	.216
GS1	GS1	**.815**	*.030*	*-.074*	***-.191***	*-.052*	*-.056*	.288
GS2	GS2	**-.704**	*.099*	*.049*	***-.041***	*.050*	*.078*	.443
GS3	GS3	**.802**	*-.066*	*-.002*	***.023***	*-.014*	*-.040*	.350
GS4	GS4	**.850**	.118	*-.015*	***.055***	*.029*	*.034*	.258
GS5	GS5	**-.636**	*.068*	*-.137*	***-.315***	*-.017*	*.055*	.405
GS6	GS6	**.794**	*.047*	*.019*	**.284**	.169	*.062*	.253
GS8	GS7	**.873**	*-.007*	*-.031*	***.127***	*.056*	*-.016*	.218
GS9	GS8	**.859**	*.057*	*.071*	**.254**	*.018*	*-.009*	.188
GS10	GS9	**.853**	*.013*	*.022*	***-.011***	*-.068*	*-.016*	.266
MM1	MM1	**.725**	*.070*	*.098*	*-.076*	**.528**	*-.014*	.174
MM2	MM2	**.749**	*.039*	.162	*-.072*	**.325**	*-.045*	.298
MM3	MM3	**.746**	-.110	*-.021*	.170	**.348**	.172	.251
MM4	MM4	**.782**	*.029*	*.056*	*.050*	**.453**	*.051*	.174
FF4	MM5	**.740**	*.005*	-.142	*.140*	**.404**	.091	.242
FF1	FF1	**.651**	*.041*	*-.102*	*-.015*	.109	**.400**	.392
FF2	FF2	**.544**	*-.017*	*.066*	*-.002*	*.037*	**.645**	.282
FF3	FF3	**.554**	*-.051*	*.106*	*-.057*	-.118	**.513**	.398
FF5	FF4	**.724**	*.001*	*-.124*	*.137*	.311	**.291**	.260

Note. λ: Standardized factor loading; δ: Standardized item uniquenesses; G-: Global factor from a bifactor measurement model; S-: Specific factors from a bifactor measurement model; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial Future; Item labels are reported in Appendix; Main (target) factor loadings are bolded; Non statistically significant parameters are marked in italics ($p > .05$).

The loadings of most items on the G-factor were higher than on their a priori S-factor (24 items out of 25), further supporting the strength of the G-factor (Fadda et al., 2020). Conversely, the GS items ($|\lambda|$ = .011 to .315; $M_{|\lambda|}$ = .161; ω = .388), once again retained only little specificity once their contribution to the G-factor was taken into account, further supporting their theoretical role as direct indicators of participants' global levels of FWB (Sorgente & Lanz, 2019). In this solution, items GS7 and FF4 now contributed to the definition of the G-factor (respectively .654 and .740) and of their new target S-factors (respectively -.342 and .404). No problematic cross-loading was identified in this solution, which was retained for further analyses.

Measurement Invariance of Scores Obtained on the MSFWBS

The results pertaining to the tests of measurement invariance conducted on the final bifactor-ESEM solution are reported in Table 7. These results reveal that all multi-group solutions were associated with an acceptable level of fit to the data. These results also supported the complete invariance of this solution as a function of participants' age groups (18-29 *versus* over 30) and personal income groups (less than 40K annually *versus* 40K annually or more), as none of the tests of measurement invariance involving these groups resulted in a decrease in model fit higher than the aforementioned criteria.

Table 7

Tests of Measurement Invariance of the Final Bifactor-ESEM Solution of Responses to the MSFWBS

	χ2 (df)	CFI	TLI	RMSEA	90% CI	Δχ 2 (Δdf)	ΔCFI	ΔTLI	ΔRMSEA
Age (18-29 Vs Over 30)									
Configural invariance	656.231 (316)*	.950	.906	.070	.062; .077				
Weak invariance	689.030 (436)*	.963	.949	.051	.044; .058	246.000 (120)	+.013	.043	-.019
Strong invariance	732.351 (454)*	.959	.946	.053	.046; .060	46.355 (18)	-.004	-.003	+.002
Strict invariance	782.275 (479)*	.956	.944	.053	.047; .060	80.463 (25)*	-.003	-.002	.000
Latent variance-covariance invariance	841.122 (501)*	.950	.940	.055	.049; .062	58.015 (22)	-.006	-.004	+.002
Latent means invariance	864.168 (508)*	.948	.938	.056	.050; .063	63.028 (7)*	-.002	-.002	+.001
Sex (Males Vs Females)									
Configural invariance	670.949 (316)*	.949	.902	.070	.063; .078				
Weak invariance	752.055 (436)*	.954	.937	.057	.050; .063	258.639 (120)	+.005	+.035	-.013
Strong invariance	777.579 (454)*	.953	.938	.056	.049; .063	30.102 (18)*	-.001	+.001	-.001
Strict invariance	920.369 (479)*	.936	.920	.064	.057; .070	67.648 (25)*	-.017	-.018	+.008
Partial strict invariance (free uniq. MM1)	784.457 (478)*	.956	.944	.053	.046; .060	42.111 (24)	+.003	+.006	-.003
Latent variance-covariance invariance	814.879 (500)*	.954	.945	.053	.046; .059	48.939 (22)	-.002	+.001	+.000
Latent means invariance	850.249 (507)*	.950	.941	.055	.048; .061	28.988 (7)*	-.004	-.004	+.002

Table 7

Tests of Measurement Invariance of the Final Bifactor-ESEM Solution of Responses to the MSFWBS (continued)

	χ2 (df)	CFI	TLI	RMSEA	90% CI	Δχ 2 (Δdf)	ΔCFI	ΔTLI	ΔRMSEA
Personal Income (Less than 40K annually Vs 40K annually or more)									
Configural invariance	528.982 (316)*	.967	.938	.055	.046; .063				
Weak invariance	628.298 (436)*	.970	.959	.044	.036; .052	219.481 (120)	+.003	+.021	-.011
Strong invariance	675.983 (454)*	.966	.955	.047	.039; .054	41.006 (18)*	-.004	-.004	+.003
Strict invariance	757.267 (479)*	.957	.946	.051	.044; .057	111.941 (25)*	-.009	-.009	+.004
Latent variance-covariance invariance	815.240 (501)*	.952	.942	.053	.046; .059	105.489 (22)*	-.005	-.004	+.002
Latent means invariance	854.346 (508)*	.947	.937	.055	.049; .061	52.327 (29)	-.005	-.005	+.002
Household Income (Less tant 90K annually Vs 90K annually or more)									
Configural invariance	508.307 (316)*	.970	.943	.052	.044; .060				
Weak invariance	648.349 (436)*	.967	.955	.047	.039; .054	245.508 (120)	-.003	+.012	-.005
Strong invariance	664.708 (454)*	.967	.957	.045	.038; .053	12.112 (18)	.000	+.002	-.002
Strict invariance	767.280 (479)*	.955	.944	.052	.045; .058	147.932 (25)*	-.012	-.013	+.007
Partial strict invariance (free uniq. GS7)	720.704 (478)*	.962	.953	.048	.040; .054	103.063 (24)*	-.005	-.004	+.003
Latent variance-covariance invariance	833.357 (500)*	.948	.938	.054	.048; .061	153.31 (22)*	-.014	-.015	+.006
Latent means invariance	780.625 (485)*	.954	.944	.052	.045; .059	94.868 (8)*	-.008	-.009	+.004

Note. * $p < .01$; χ^2: robust chi-square test of exact fit; *df*: degrees of freedom; CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; RMSEA: Root Mean Square Error of Approximation; 90% CI: 90% confidence interval; Δ: Change from the previously retained model.

Similarly, these results supported the configural, weak, strong, and latent means invariance of the solution as a function of participants' sex (male *versus* female) or household income groups (less than 90K annually *versus* 90K annually or more). However, strict invariance was rejected for both of these grouping variables. Examination of the parameter estimates from the previous solution of strong invariance and of the modification indices of the failed solution of strict invariance suggested that this lack of strict invariance seemed related to a single item (item MM1 for sex, and GS7 for household income). Relaxing the equality constraints on these uniquenesses resulted in models of partial strict invariance that were supported by the data. These results indicated that item MM1 ("I am satisfied with the way I manage my money") was slightly more reliable among males (δ = .102) than females (δ = .279), and that item GS7 ("I am satisfied with my present financial situation") was slightly more reliable among participants with an annual household income greater than 90K (δ = .151) than those with a household income below 90K (δ = .271). Finally, although the invariance of the latent variances and covariances was supported across male and female participants, it was not supported as a function of household income groups. Although tests of partial latent variance covariance invariance cannot be implemented in ESEM (or bifactor-ESEM), the results suggest that this lack of invariance was due to a slightly lower level of variability among participants with an annual household income greater than 90K (variances = .268 to .662; M = .470) than among those earning less than 90K annually (variances fixed to 1 for identification purposes).

Convergent Validity of Scores Obtained on the MSFWBS

The fit of the model including the final bifactor-ESEM representation of the MSFWBS and all convergent measures was acceptable ($\chi^2 = 2008.954$; $df = 940$; CFI = .924; TLI = .905; RMSEA = .050 [90% CI = .047 to .053]). Likewise, the fit of the model including the final bifactor-ESEM representation of the MSFWBS and the complete CFPB was also acceptable ($\chi^2 = 919.229$; $df = 431$; CFI = .946; TLI = .926; RMSEA = .050 [90% CI = .045 to .054]). Importantly, the decision to rely on a bifactor-ESEM representation of the PFWBS was supported by the comparison of CFA, bifactor-CFA, ESEM, and bifactor-ESEM solutions reported in Tables S1 and S2 of the online supplements. The final bifactor-ESEM solution revealed a G-factor well-defined by most indicators ($|\lambda|$ = .297 to .822; $M_{|\lambda|}$ = .618; ω = .911), accompanied by a reasonably well-defined current situation S-factor ($|\lambda|$ = .358 to .714; $M_{|\lambda|}$ = .554; ω = .778). However, the future expectations items mainly served to define the G-factor, retaining little specificity of their own once their contribution to the G-factor were accounted for ($|\lambda|$ = .002 to .473; $M_{|\lambda|}$ = .229; ω = .455).

Results from these analyses of convergent validity are reported in Table 8, and reveal strong statistically significant correlations between the MSFWBS G-Factor and the FAS (r = -.814), CFPB (r = .936 to .942), and the PFWBS G-Factor (r = .846). The MSFWBS G-Factor was also moderately correlated with the PFWBS S-factor reflecting participants' levels of dissatisfaction with their current financial situation (r = -.300).

Table 8

Latent Variables Correlations: Analyses of Convergent Validity

Scale	G-Factor	HM	PC	GS	MM	FF
FAS	-.814**	.113	-.092	.123	-.289**	.158**
PFWBS (G-Factor)	.846**	.115	-.092	-.086	.145	.211*
PFWBS (S-Future)	-.050	-.069	.127	.376	-.183	-.126
PFWBS (S-Current)	-.300**	.647**	-.084	-.139	-.001	.188
CFPB (Reduced version)	.936**	-.219**	-.010	.049	.111*	-.051
CFPB (Complete version)	.942**	-.178**	.000	.055	.118**	-.030

Note. * $p \leq .05$; ** $p \leq .01$; FAS = Financial Anxiety Scale; CFPB = Consumer Financial Protection Bureau; PFWBS = Perceived Financial Well-Being Scale; MSFWBS = Multidimensional Subjective Financial Well-Being Scale; HM = Having money; PC = Peer Comparison; GS = General subjective financial well-being; MM = Money Management; FF = Financial Future.

Without surprise, the MSFWBS GS S-factor, as well as the PFWBS future expectations S-factor, which were weakly defined in their final bifactor-ESEM solutions, did not share any statistically significant correlations with any of the other factors. Likewise, the MSFWBS PC S-factor, which taps into a facet of FWB unique to this instrument, was not significantly related to any of the convergent measures. In contrast, the MSFWBS HM S-factor was strongly correlated (r = -.647) with the PFWBS current situation S-factors, and weakly correlated with the CFPB (r = -.178 to -.219). The MSFWBS MM S-factor was moderately correlated with the FAS (r = -.289) and weakly correlated to the CFPB (r = .111 to .118). Finally, the MSFWBS FF S-factor was weakly correlated to the FAS (r = -.158) and to the PFWBS G-factor (r = -.211).

Criterion-Related Validity of Scores Obtained on the MSFWBS

The fit of the model used to test the criterion-related validity of the final bifactor-ESEM representation of the MSFWBS was acceptable ($\chi^2 = 1986.716$; $df = 1031$; CFI = .927; TLI = .914; RMSEA = .045 [90% CI = .042 - .048]). The results from this model are reported in Table 9. These results first indicate that FWB explains a significant portion of the variance in perceived stress ($R^2 = 35.20\%$), psychological distress ($R^2 = 22.30\%$) and life satisfaction ($R^2 = 49.20\%$). Furthermore, scores on the global FWB factor were significantly associated with all three criterion variables, predicting lower levels of perceived stress and psychological distress, and higher levels of satisfaction with life. Unexpectedly, the FF S-factor positively predicted participants' levels of psychological distress and perceived stress, whereas none of the other S-factors (HM, PC, GS, and MM) predicted any of the criterion variables.

Table 9

Criterion-Related Validity

	Perceived Stress	Psychological Distress	Satisfaction with Life
Factor	β (s.e.)	β (s.e.)	β (s.e.)
Global factor	-.485 (.049)**	-.396 (.043)**	.684 (.036)**
Having money (specific factor)	.013 (.077)	.024 (.056)	.000 (.077)
Peer comparisons (specific factor)	-.149 (.096)	-.088 (.066)	.115 (.063)
General subjective financial well-being (specific factor)	-.244 (.131)	-.155 (.133)	-.001 (.110)
Money management (specific factor)	-.094 (.059)	-.018 (.057)	-.101 (.057)
Financial future (specific factor)	.159 (.053)**	.183 (.049)**	.002 (.051)
R^2	.352**	.223**	.492**

Note. * $p \leq .05$; ** $p \leq .01$; β: Standardized regression coefficient; s.e.: Standard error of the coefficient; R^2: Proportion of explained variance.

Discussion

This study sought to improve the conceptual and operational clarity of FWB via a comprehensive evaluation of the psychometric properties of the MSFWBS. This instrument was retained based on a thorough examination of the ways FWB had been previously defined, operationalized, and measured in research. This review of the literature allowed us to propose an operational definition of FWB, aligned with the typical definition of general well-being as encompassing hedonic and eudaimonic components (Keyes et al., 2002), while being more specific to one's financial situation. Moreover, our psychometric investigation of the MSFWBS led us to propose an optimized factor

structure (i.e., relying on bifactor ESEM and moving two items to other dimensions) of scores on this instrument that provides a way for scholars to operationalize this integrative definition via a variety of global (global FWB) and specific (HM, PC, GS, MM, FF) indicators. Although previous research on this instrument has been limited to emerging adults (Sorgente & Lanz, 2019), our results supported the generalizability of this factor structures to samples of male and female emerging adults and adults over the age of 30 and across different income levels. Lastly, our results also demonstrated the convergent and criterion-related validity of this factor structure, particularly in relation to the global FWB factor. It is our hope that this novel integrative definition and measure will provide an impetus for increased cohesion in FWB research.

Theoretical contributions

The central contribution of this study involves the clarification and broadening of our understanding of the multidimensional nature of FWB, and in providing support to the ability of the MSFWBS in providing a psychometrically sound measurement of this construct. More precisely, the optimized structure of the MSFWBS established in the present study provides a comprehensive picture of the duality of FWB as a global construct (the G-factor) reflecting the commonalities among a series of distinct dimensions (HM, PC, GS, MM, and FF), most of which also retain some degree of specificity (the S-factors) beyond the assessment of this global construct. Moreover, the convergent validity of participants' scores on the global FWB factor was clearly established via the demonstration of their strong negative correlations with participants'

levels of financial anxiety (FAS), as well as with their scores on the CFPB, PFWBS G-Factor, and PFWBS S-factor.

The GS items did not capture any construct-relevant specificity once their contribution to the assessment of the global FWB factor was accounted for. On the one hand, this observation supports Sorgente and Lanz's (2019) assertion that the GS items could possibly provide a shorter one-dimensional measure of FWB, as these items all played strong role in the definition of the global FWB factor without capturing anything else beyond this G-factor. On the other hand, this shorter measure remains imperfect, given that the global FWB factor was also strongly defined by the items associated with the other dimensions (HM, PC, MM, and FF), which also capture additional information beyond this G-factor. Researchers seeking to rely on the GS subscale as a shorter measure of FWB should thus do so with caution, while properly acknowledging that this shorter measure is only able to provide an incomplete one-dimensional picture of a naturally multidimensional construct.

In addition to their strong contribution to the definition of the global FWB factor, the FF items were those who retained the highest levels of specificity beyond this G-factor. These results are consistent with the importance of taking into account one's future financial expectations when seeking to obtain a comprehensive assessment of FWB (Brüggen et al., 2017; CFPB, 2015; Kempson & Poppe, 2017; Muir et al., 2017; Netemeyer al., 2018; Porter & Garman, 1993). Unfortunately, the PFWBS future

expectations S-factor was too weakly defined in the present study to allow for a proper test of convergent validity for the FF factor. However, this specific dimension was also found to share associations with the FAS, suggesting that one's financial future might also be a source of financial anxiety, as well as with the PFWBS G-factor, consistent with the strong role played by the items related to one's future expectations in the definition of this G-factor.

While they also strongly contributed to the definition of the global FWB factor, the HM, PC, and MM items also all retained a meaningful level of specificity beyond their contribution to the definition of the G-factor. Furthermore, the convergent validity of participants' scores on the MM S-factor was supported via the demonstration of statistically significant correlations with the CFPB and the FAS. The latter correlation suggests that money management difficulties may play a role in financial anxiety. Likewise, participants' scores on the HM S-factor were also found to share a strong association with the conceptually similar PFWBS current situation S-factor (both factors reflect participants' dissatisfaction with their current financial situation), and a weaker one with the CFPB. However, and in accordance with the unique nature of this component of FWB (which was not covered in our convergent measures), the PC S-factor did not share any significant associations with the convergent measures. Indeed, although many authors had previously highlighted the importance to account for proper money management (Muir et al., 2017; Netemeyer et al., 2018; Sorgente & Lanz, 2017, 2019) and of having money (Brüggen et al., 2017; CFPB, 2015; Kempson & Poppe, 2017; Muir et al., 2017;

Netemeyer et al., 2018; Sorgente & Lanz, 2017, 2019) for the assessment of FWB, Sorgente and Lanz (2019) were the only authors to highlight the importance of a peer comparison component. The present results thus support their proposition but highlight the need for a more thorough examination of convergent validity of this component. It should be noted, that the item with the lowest factor loading on the PC S-factor (PC3: "My peers usually have more money available for free time activities than me") seem to reflect the intended use of money, in this case leisure, rather than one's global financial situation. This may explain the weaker factor loading associated with this item, and suggests that future research might consider discarding, or replacing, this item.

In addition to supporting the relevance of the five components of FWB identified by Sorgente and Lanz (2019) and the value of bifactor-ESEM for multidimensional measures of well-being (Morin et al., 2016a, 2020), our results also support the generalizability of the psychometric properties of this optimized MSFWBS factor structure. Indeed, our results supported the complete measurement invariance of this factor structure across age groups (18-29 vs over 30). Thus, although the MSFWBS was originally designed to assess FWB among emerging adults (18 to 29 years old), our results support its use among older individuals. With few exceptions, the measurement invariance of this factor model was also supported as a function of male and female participants, and of participants from distinct personal, or household, income groups. In fact, the item-level reliability of only two items was found to differ across subgroups of participants, suggesting that care should be used to account for these differences in the context of group comparisons. More

precisely, item MM1 ("I am satisfied with the way I manage my money") was found to be slightly more reliable among males than among females, whereas item GS7 (“I am satisfied with my present financial situation”) was slightly more reliable among participants with a higher household income. Interestingly, this difference did not generalize to comparisons based on personal income, which could perhaps be associated with the slightly lower level of variability in participants’ scores observed among high income households. This lower variability is consistent with the idea that FWB varies less across richer families than it does across poorer families, recalling Leo Tolstoy famous quote “All happy families are alike; each unhappy family is unhappy in its own way”. In any case, researchers interested in comparing FWB as a function of sex or household income should rely on latent variable models, such as those used in this study, to control for this differential item-level reliability, or consider discarding these items.

Lastly, our study sought to document the criterion-related validity of the MSFWBS. Our results showed that FWB, as assessed by this instrument, played a considerable role in the prediction of participants’ levels of perceived stress (R^2 = 35.20%), psychological distress (R^2 = 22.30%) and life satisfaction (R^2 = 49.20%). These findings are consistent with previous studies highlighting the importance of FWB for general functioning and well-being (Espinosa & Rudenstine, 2020; Netemeyer et al., 2018; Shim et al., 2009; Sorgente & Lanz, 2019; Xiao et al., 2009; Zhang & Cao, 2010). In this regard, our results highlighted the primary role of participants’ global levels of FWB (the G-factor) in the prediction of all of these criterion measures (| β | = .396 to .684). However, they also

revealed that most specific components of FWB (i.e., the HM, PC, GS, and MM S-factors) did not contribute to these predictions beyond the role of the FWB G-factor. They also unexpectedly revealed a positive association between participants' scores on the FF S-factor and their levels of psychological distress and perceived stress. These results thus indicate that specific levels of confidence in one's financial future higher than one's global level of FWB (i.e., keeping in mind that the S-factors reflect deviations from the G-factor), tend to be stressful and possibly distressing for participants. More precisely, these results thus suggest a strong desire for a better future that stands in stark contrast with one's current financial situation seem to be stressful/distressful for participants. Clearly, future research will be needed to assess whether this unexpected association would be replicated and, more importantly, to conduct a more comprehensive assessment of the criterion-related validity of the various S-factors included in the MSFWBS.

Limitations and Directions for Future Research

The present study includes some noteworthy limitations to consider when interpreting the results. First, our study relied on a convenience sample of participants who volunteered. As a result, selection bias might have led to an over-recruitment of participants who feel challenged in their FWB. Unfortunately, it is not possible to empirically verify this possibility. Likewise, the nature of our sample also makes it hard to generalize our findings to the general population, particularly with respect to language, education, income, as well as the proportion of women. In this regard, it would appear important to verify the extent to which our results would generalize to more diversified

samples of participants recruited to be more representative of the general population, as well as from different countries, cultures, and linguistic groups. Second, our study solely relied on self-reported data, suggesting that a variety of self-report biases might have played a role in the results. It is, however, fortunate that common method bias is unlikely to inflate the associations observed in the context of multivariate analyses such as those conducted in this study (Siemsen et al., 2010). In any case, future studies should try to build upon the current investigation through the incorporation of additional sources (e.g., participant's partner) as well as objective data (e.g., physiological measure of stress). Third, although the present study advances our understanding of FWB and its measurement, it is not yet clear at what point an individual's level of FWB might be considered sufficient or problematic. Although the score on a FWB measurement scale is certainly not the only predictor of more general components of health and well-being, future studies would do well to identify some threshold of FWB and to recognize that it is significant enough to warrant intervention. Fourth, our study examined the measurement of FWB at a single point in time, without considering its temporal stability. As a result, it would be important for future research to assess how FWB may vary over time, as well as the directionality of its associations with criterion-related measures. Future research should also place more emphasis on FWB outcomes (e.g., quality of life, happiness, compensatory behavior, physical health). Fifth, a deeper understanding of the determinants of FWB could certainly help shed light on the temporal variations of FWB. To this end, Prawitz et al. (2006) noted the presence of 58 potential determinants of FWB, whereas Sorgente and Lanz (2017) noted 95. Among potential determinants and

correlates, special attention should be paid to financial literacy, a topic increasingly studied by researchers since the 2008 financial crisis (e.g., Abdullah & Chong, 2014; Goyal & Kumar, 2021). Importantly, financial literacy seems to be more than a simple matter of knowledge (Goyal & Kumar, 2021; Lee et al., 2020; OECD/INFE, 2020; Remund, 2010), making it critical for upcoming research to differentiate between financial knowledge (e.g., Mitchell and Lusardi, 2015) and financial skills and self-efficacy (Warmath & Zimmerman, 2019) in research on financial literacy. Although Remund (2010) argued for a standard way of conceptualizing, operationalizing and measuring financial literacy, such a standard approach is still currently lacking, as noted by Goyal and Kumar in their 2021 systematic review of the relevant research literature. However, research evidence seems relatively clear regarding the role of financial literacy as a determinant of FWB (i.e., Braunstein & Welch, 2002; Santini et al., 2019; OECD/INFE, 2020), highlighting the need for additional research on the associations between different components of financial literacy and FWB. Sixth, items GS7 and FF4 seemed to be initially assigned to the wrong factor and were reassigned to different factors in the present study. Pending replication of the present results, it would thus seem important for future research to conduct a systematic re-assessment of the face validity and content validity of these items. Lastly, unlike Keyes et al. (2002) and other conceptualizations of FWB, the MSFWBS does not separately consider the affective versus cognitive nature of FWB, simply relying on the incorporation of some affective items in one of its dimensions (GS). The impact of cognition vs. affect for FWB measurement is thus another issue that may be worth considering in future research (e.g., CFPB, 2015; Muir et al., 2017; Netemeyer et al., 2018).

Conclusion

Our study suggests that, despite their inherent differences, the operational definitions of FWB that have been proposed thus far do indeed reflect a multidimensional construct that can be reliably and validly assessed using the MSFWBS, pending some adjustments to its factor structure. More generally, our study emphasizes the importance of conceptual clarity as well as the reliance on an empirically-supported operationalization to foster a greater consensus among FWB researchers. Such a consensus would make it possible for theory and research may move forward in a coherent manner, and thus better serve the interests of researchers, practitioners, and organizations. Although further research is warranted to validate some elements of the MSFWBS, we argue that, at this stage of research, it would be beneficial to prioritize the use of our optimized version of the scale to better guide research on FWB and ensure better comparability among studies.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author contributions

MA: conception of the study under the supervision of CF, data collection, draft of the manuscript, analysis and interpretation of the data under the supervision of AJSM. AJSM, CF and NC : Critical review of the manuscript.

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Appendix

Items Labels for the Multi-Dimensional Subjective Financial Well-Being Scale

Item # Original	Item # Final	Label
HM1	HM1	*Sometimes I miss funds to buy things I need*
HM2	HM2	*I cannot do some things with my friends, because I do not have the money to do them*
HM3	HM3	*Sometimes I do not have the money to buy what I need*
PC1	PC1	My financial situation is better than my peers' one
PC2	PC2	*My financial situation is worse than my friends' one*
PC3	PC3	*My peers have usually more money available for free time activities than me*
GS1	GS1	I have enough money to pursue my passions
GS2	GS2	*I have less money than I need*
GS3	GS3	I cannot complain about my financial situation
GS4	GS4	I am satisfied with how my life is going from a financial point of view
GS5	GS5	*I am constantly stressed because of my financial situation*
GS6	GS6	I am calm about my financial situation
GS7	HM4	I have enough funds for everything I need
GS8	GS7	I am satisfied with my present financial situation
GS9	GS8	I am comfortable with my current financial situation
GS10	GS9	I have enough funds to enjoy my life
MM1	MM1	I am satisfied with the way I manage my money
MM2	MM2	I am satisfied with the way I spend my money
MM3	MM3	I feel I can handle my financial situation
MM4	MM4	I am satisfied with the way I manage my financial situation
FF1	FF1	In the near future, I will have enough money to carry my plans out
FF2	FF2	I expect to be very satisfied with the financial situation that I will achieve thanks to my commitment
FF3	FF3	The study/work path I have undertaken will allow me to achieve a satisfying financial situation
FF4	MM5	I am satisfied with the way I am preparing myself to reach my long-term goals (for example. to buy a car)
FF5	FF4	I'm on the right track to meet my financial goals

Note. HM: Having money; PC: Peer comparisons; GS: General subjective financial well-being; MM: Money management; FF: Financial future; Italics: Reversed-score items.

Chapitre 2

A Person-Centered Perspective on Financial Well-Being

A Person-Centered Perspective on Financial Well-Being

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Abstract

This study sought to identify the different configurations, or profiles, of financial well-being (FWB) observed among a large sample (n = 2,235) of French-Canadian adults and the generalizability of these profiles across subsamples of adults who adopted, or not, financial budgeting practices. We also assessed how these profiles related to a series of personal and financial predictors (sex, income, savings, perceived financial efficacy, neuroticism, and financial knowledge), as well as to outcomes related to psychological health (life satisfaction, perceived stress, psychological distress). Latent profile analyses (LPA) revealed five FWB profiles that were largely replicated across participants relying, or not, on financial budgeting, despite some variations in their relative frequency of occurrence. The largest profile corresponded to 77% (no budgeting) to 80% (budgeting) of the sample showcasing *normative* (satisfactory, slightly above average) levels of FWB. In contrast, the remaining profiles (jointly representing 20% to 23% of the sample) displayed low to very low global levels of FWB accompanied by more specific areas of strengths and weaknesses related to one's future financial situation, income adequacy, and/or personal financial management. Perceived financial efficacy, the presence of savings and emotional stability were associated with greater likelihood of membership into the most favorable profile (*Normative-Comfortable*) relative to all other profiles, whereas more detrimental outcomes were observed among the two profiles displaying the lowest global levels of FWB.

Keywords. Financial well-being; perceived financial efficacy; neuroticism; life satisfaction; psychological distress; general well-being; latent profile analyses.

Getting a new shiny toy will not make you happier; happiness can't be bought in a cardboard box[1]

Financial well-being (FWB) has recently attracted a lot of attention from governments, employers, and financial institutions (e.g., Bank of America, 2021; CFPB, 2015; OECD/INFE, 2020; Royal Bank of Canada, 2023; Santander, 2020; Sun Life Financial, 2020), due to its multiple documented benefits for various indicators of positive functioning, including life satisfaction, stress, health, and psychological well-being (Arber et al., 2014; Aubrey et al., 2022; de Oliveira Cardoso et al., 2023; Netemeyer et al., 2018; Shim et al., 2009; Sorgente & Lanz, 2019). Despite raising awareness among public authorities and within the business community, FWB research still lags behind on a number of critical elements (Brüggen et al., 2017; Kaur & Singh, 2022; Nanda & Banerjee, 2021). For instance, despite the recognition of the multidimensional nature of FWB (e.g., Aubrey et al., 2022; de Oliveira Cardoso et al., 2023), no research has sought to identify the various configurations, or profiles, of FWB components most frequently observed among the adult population.

Indeed, current knowledge of FWB still relies exclusively on a variable-centred approach (i.e., focusing on the associations between specific FWB components and other variables; e.g., Netemeyer et al., 2018; Ponchio et al., 2019; Riitsalu & van Raiij, 2022; Sorgente & Lanz, 2019; Vörös et al., 2021), which fails to address the combined impact

[1] Taken from the popular French-Canadian song *L'Hiver Approche* from the *Break Syndical* album by *Les Cowboys Fringants* (2002); free translation by the authors.

of these components. More precisely, individuals can differ on each of these components (e.g., Money Management, Peer Comparisons, Having Money) which are likely to create a unique context that impacts on the role of the others. For instance, having enough money could potentially offset the influence of other components, whereas their role could be potentiated when money is lacking. Unfortunately, variable-centered analyses are unable to consider the combined influence of more than two or three interacting variables (Howard & Hoffman, 2018; Morin et al., 2018). Person-centered approaches can address this limitation by allowing for the identification of the most commonly occurring configurations, referred to as profiles, of FWB among the adult population (Morin et al., 2018).

To address this gap, the present study adopts a person-centered approach to examine the nature of the multidimensional FWB profiles observed among a sample of Canadian adults. To document the construct validity of these profiles, we then investigate their associations with a variety of personal (sex, neuroticism) and financial (income, savings, financial knowledge, and perceived financial efficacy) predictors, as well as with outcomes related to personal levels of psychological health (i.e., life satisfaction, perceived stress and psychological distress). Finally, we assess whether these profiles, as well as their associations with predictors and outcomes, generalize across adults relying, or not, on financial budgeting practices. This verification is predicated on the fact that budgeting is a widely recommended financial practice (e.g., ACFC, 2022; Barclays, n.d.;

CFPB, 2019; OECD/INFE, 2020) whose empirical association with FWB has yet to be formally investigated in research.

The Multidimensional Nature of FWB

FWB can be conceptualized as an objective and/or subjective psychological state (Brüggen et al., 2017), although recent studies have tended to adopt a subjective definition of FWB (Nanda & Banerjee, 2021). Despite the growing interest for subjective FWB, there is currently no consensus on its conceptualization (Brüggen et al., 2017; de Oliveira Cardoso et al., 2023; Kaur & Singh, 2022; Nanda & Banerjee, 2021; Riitsalu & van Raaij, 2022). Aubrey et al. (2022) recently conducted a critical analysis of the most widely used definition of FWB, namely those of Brüggen et al. (2017), CFPB (2015), Kempson and Poppe (2017), Muir et al. (2017), Netemeyer et al. (2018) and Sorgente and Lanz (2017, 2019), highlighting several consistencies across definitions related to: (1) the multidimensional nature of FWB, (2) its temporality (i.e., the need to distinguish between current and future situations), (3) the need to consider resource adequacy as part of FWB measurement (i.e., the need to have enough sufficient financial resources to meet one's basic needs), and (4) the importance of contentment within the subjective state of FWB (i.e., the need for the financial situation to be perceived by the individual as satisfactory). This led them to define FWB as a positive psychological state characterized by a feeling of satisfaction with one's personal financial situation and by a positive perception of one's financial situation as being able to actively meet one's current needs and future aspirations. In a more recent systematic review of the literature, de Oliveira Cardoso et al. (2023)

reached similar conclusions, leading them to endorse Aubrey et al. (2022) definition as the most complete, while also echoing a conclusion reached by Aubrey et al. (2022) based on their own results, highlighting the need to also incorporate a social comparison perspective within a comprehensive operationalisation of FWB. Drawing on earlier work by Sorgente and Lanz (2019), Aubrey et al. (2022) and de Oliveira Cardoso et al. (2023) both recommended the *Multidimensional Subjective Financial Well-Being Scale* (MSFWBS) providing the most comprehensive multidimensional assessment of FWB available to date.

Importantly, the five facets of FWB captured by this instrument encompasses five dimensions (i.e., Having Money, Peer Comparison, General Subjective FWB, Money Management, and Financial Future) which, although inter-correlated, can also differentially vary across individuals. In other words, although individual scores on these dimensions tend be aligned with one another for some individuals, different individuals can also display their own unique configurations of FWB. For instance, some might report having enough money and be confident about their financial future while remaining unsatisfied with their financial management skills and by a perceived lack of funds relative to their peers. In contrast, others may be confident about their financial future because of their financial management skills, while being preoccupied with the current state of their finance which remains lower than that of their peers. As a result, both types of individuals may report an average level of subjective FWB, although this average level is anchored in a very different subjective reality. Moreover, to better highlight the variance uniquely

attributed to each specific component of FWB, Aubrey et al. (2022) highlighted the value of a bifactor representation of FWB (Morin et al., 2016a, 2017, 2020). This operationalization allowing them to obtain a global (G-factor) estimate of FWB directly defined by participants' responses to all MSFWBS items, together with specific estimates of the variance uniquely attributed to each specific (S-factors) dimension of FWB left unexplained by the G-factor. This type of operationalization has also been highlighted as particularly relevant to considered in the context of person-centered analyses of similar constructs (Morin et al., 2016a, 2017) to achieve a more accurate representation of the distinct nature of the identified profiles.

A Person-Centered Representation of FWB

As noted in our introductory statement, person-centered analyses are particularly useful when one seeks to understand the combined role of multiple components of FWB based on the unique configurations observed in distinct profiles of individuals (Morin et al., 2018). Thus, rather than assuming that results will generalize to the whole sample under study, person-centered analyses seek to identify discrete subpopulations (or profiles) of participants characterized by distinctive configurations of FWB, and to document the predictors and outcomes of these profiles. Because research on FWB is still fairly recent, the lack of systematic theoretical development related to FWB configurations most likely to be identified and the lack of prior empirical person-centered research on this construct force our study to remain primarily inductive. Fortunately, this inductive approach is aligned with the methodological nature of person-centered analyses

(Morin et al., 2018). However, beyond stating that we expect the identification of a variety of FWB profiles defined by unique combinations of global and specific levels of FWB, previous research on FWB and on psychological well-being in general allow us to express slightly more specific expectations.

First, Aubrey et al. (2022) have shown that the specific dimensions of FWB (i.e., the S-factors) can vary in a way that is independent from participants' global levels of FWB (the G-factor), allowing us to expect differentiated profiles of FWB. Moreover, Aubrey et al. (2022) noted that global and specific levels of FWB displayed a far lower level of variation among individuals with a higher income than among those with a lower income. This observation reminded them of the famous quote used by Leo Tolstoi (1877) at the beginning of his Ana Karenina epic novel stating that *"All happy families are alike; each unhappy family is unhappy in its own way"*. This *Tolstoi principle* suggests that multiple profiles displaying low global levels of FWB and diverging from one another in their unique configuration of high (indicative of confidence) and low (indicative of concerns) scores across FWB facets should be identified. In contrast, it also suggests that fewer profiles should display moderate to high levels of FWB, and that these profiles should display a more balanced configuration.

Second, research on psychological health and well-being (not restricted to their financial aspect) has shown that the largest proportion of participants (~60% of the sample) displayed a *Normative* profile, characterized by average to slightly above average

levels across all dimensions, suggesting a globally "comfortable" situation (Morin et al., 2016a, 2017). Beyond this *Normative* profile, research has also identified smaller profiles whose levels of well-being go beyond comfort to suggest a more extreme positive state of thriving or flourishing (Morin et al., 2016a, 2017). Taken together, these considerations suggest that low global levels of FWB should be accompanied by a more imbalanced configuration across specific dimensions, matching the *Tolstoi principle*, while the largest profile (*Normative*) should represent individuals who feel globally comfortable financially. What remains unknown, however, is whether satisfactory levels of FWB are simply a matter of comfort (i.e., as captured by a large *Normative* profile), or whether it is also (like psychological well-being) a matter of degree so that a small minority of psychologically "richer" individuals will display a profile suggestive of financial thriving or flourishing. Whereas the former possibility is aligned with the popular belief (captured by our opening quote) that beyond a certain point further accumulation of financial resources will stop being relevant to FWB, the latter is aligned with the *American Dream* perspective that one cannot have too many financial resources for a similar analogy, see Csikszentmihalyi, 1999). We thus propose that:

Hypothesis 1 (H1): Multiple profiles characterized by low to very low global levels of FWB and differing from one another in terms of specific FWB facets will be identified.

Hypothesis 2 (H2): The largest FWB profile (*Normative*) will be characterized by average to slightly above average global and specific levels of FWB generally aligned with one another.

Research Question 1 (RQ1): Will profiles characterized by high to very high levels of FWB be identified (*Thriving*), or will the profile with the highest scores remain the *Normative* one?

Predictors of FWB Profiles

In person-centered research, especially when relying on a theoretically inductive approach, it is critical to establish the construct validity of identified profiles by documenting their differential relations with theoretically-relevant predictors and outcomes (Morin et al., 2016b; Muthén, 2003). In this study, we consider the role of personal (sex and neuroticism) and financial (income, savings, financial knowledge, and financial self-efficacy) predictors previously found to be associated with FWB (e.g., CFPB, 2017; Chhatwani, 2022; Joshanloo, 2022; Tharp et al., 2020) or with more generic measures of psychological well-being (e.g., Olesen et al., 2015; Steel et al., 2008) in variable-centered research. Although research on FWB has thus far remained primarily atheoretical (Riitsalu et al., 2023), we draw on a conceptual framework proposed by Brüggen et al. (2017), which considers a wide range of contextual factors (i.e., economic, legal, political, sociocultural, technological, and financial) as well as personal factors (sociodemographic, skills, attitudes, motivation, personality traits, financial practices, and life events) likely to influence FWB. However, in this first attempt to identify predictors of FWB profiles, we elected to focus on personal/financial rather than contextual factors, since the modification of contextual factors is harder to achieve for intervention.

To date, sex differences in terms of FWB levels are unclear. While some studies indicate no significant difference on FWB between men and women (e.g., CFPB, 2017), others have shown that women (e.g., Chatterjee et al., 2019; Delafrooz & Paim, 2011) or men (e.g., Kempson & Poppe, 2017; Riitsalu & Murakas, 2019) tend to report higher levels of FWB. While these findings appear contradictory, it is possible that sex differences are specific to only a subset of profiles, which may explain part of the contradictory findings reported in previous research, leading us to ask:

Research Question 2 (RQ2): Does sex relate to profile membership?

Among personality traits, neuroticism (or emotional instability)tends to be strongly associated with lower levels of subjective well-being (Olesen et al., 2015; Steel et al., 2008; Vittersø & Nilsen, 2002). Although research investigating the relation between personality and FWB remains scarce (Heo et al., 2018), findings have generally shown that this negative association found between neuroticism and subjective well-being seems to generalize to FWB (Chhatawani, 2022; Joshanloo., 2022; Tharp et al., 2020). We thus propose that:

Hypothesis 3 (H3): A low level of neuroticism will increase the likelihood of membership to profiles displaying a higher global level of FWB.

Income, which is the main component of FWB when assessed objectively (Brüggen et al., 2017; Kaur & Singh, 2022), has often been found to be positively related to subjective FWB (e.g., Joo & Grable, 2004; Netemeyer et al., 2018; Riitsalu &

Murakas, 2019; Riitsalu & van Raaij, 2022: Sorgente & Lanz, 2019; Walker et al., 2018), although results displayed substantial variations across FWB components (Netemeyer et al., 2018; Sorgente & Lanz, 2019), making the inclusion of this variable particularly relevant to the present study. More aligned with the temporal component of FWB (i.e., its future orientation), some studies have also reported positive associations between different types of saving behaviors and FWB, including recurrent saving behaviors (Anvari-Clark & Ansong, 2022; Mahdzan et al., 2019; Ponchio et al., 2019; Riitsalu & Murakas, 2019; Walker et al., 2018), past saving behaviors (Netemeyer et al., 2018), the total value of one's savings (e.g., Anvari-Clark & Ansong, 2022; Riitsalu & van Raaij, 2020), or the presence of a financial cushion sufficient to cover short-term expenses (Anvari-Clark & Ansong, 2022; Fan & Henager, 2022; Riitsalu & van Raaij, 2020) or to ensure a comfortable retirement (Fan & Henager, 2022). Despite this variation, income and savings generally share positive associations with FWB, leading us to expect that:

> *Hypothesis 4 (H4)*: Income (*H4a*) and savings (*H4b*) will share positive associations with participants' likelihood of membership into profiles displaying higher global levels of FWB than profiles with lower global levels of FWB.

There is a growing scientific interest on the construct of financial literacy, especially since the 2008 financial crisis (Abdullah & Chong, 2014; Goyal et al., 2021). Unfortunately, despite an early call for the standardization of the way financial literacy is conceptualized, operationalized and measured (Remund, 2010), research on this construct still lacks integration (Goyal et al., 2021). Nonetheless, after over a decade of research,

most seem to agree that financial literacy (defined as the ability to make adequate financial decisions; Warmath & Zimmerman, 2019) goes beyond the simple possession of adequate financial knowledge (typically measured by theoretical questions on financial concepts, such as compound interest and inflation) to also encompass subjective financial skills and self-efficacy (Goyal et al., 2021; Hensley, 2015; Netemeyer et al., 2018; OECD/INFE, 2020; Remund, 2010; Warmath & Zimmerman, 2019). Financial skills refer to individuals' perception of their ability to know when and how to find reliable financial information, how to process that information (e.g., assess its pros and cons), how to act on that information, and how to adjust one's actions when facing new information (CFPB, 2018). Financial self-efficacy refers to individuals' confidence in their ability to acquire financial information and make effective financial decisions (Netemeyer et al., 2018). Studies that have simultaneously considered objective (e.g., knowledge) and subjective (self-efficacy, skills perceptions) components of financial literacy (Vörös et al., 2021; Xiao et al., 2014) have shown that the latter seems to be more closely related to FWB than the former. This conclusion is consistent with results showing a lack of association between objective financial knowledge and FWB (Losada-Otalora et al., 2020; Mahdzan et al., 2019; Utkarsh et al., 2020) but a positive association between subjective financial skills (CFPB, 2017) or self-efficacy (Netemeyer et al., 2018) and FWB. These observations suggest that:

Hypothesis 5 (H5): Subjective financial skills and self-efficacy (*H5a*), but not objective financial knowledge (*H5b*) will increase the likelihood of membership into

profiles displaying a higher global level of FWB than profiles with lower global levels of FWB.

Research Question 3 **(***RQ3***)**: How will neuroticism (*RQ3a*), income (*RQ3b*), savings (*RQ3c*), objective financial knowledge (*RQ3d*), and subjective financial skills and self-efficacy (*RQ3e*) be associated to profiles differing in terms of specific FWB components but displaying similar global levels of FWB?

Outcomes of FWB Profiles

To assess the relevance of FWB profiles, we considered three generic indicators of psychological health, defined by the WHO (2022) as encompassing both low levels of ill-being (as operationalized in the present study by perceived stress and psychological distress) and high levels of well-being (operationalized in this study by life satisfaction), based on the recognition that positive and negative indicators of psychological health can often vary independently of one another (Innstrand et al., 2023; Trépanier et al., 2015). Psychological distress refers to non-specific symptoms of impaired psychological health, encompassing symptoms of anxiety and depression (Kessler et al., 2002), whereas perceived stress refers to the cognitive and emotional response experienced by individuals in relation to the stressors to which they are exposed at a point in time or over a certain period of time (Philipps, 2016). For its part, life satisfaction refers to individuals' cognitive evaluation of their overall quality of life (Pavot & Diener, 2008).

Relative to predictors of FWB, its outcomes have largely been ignored in research (Nanda & Banerjee, 2021). Among the few exceptions, some variable centered studies have demonstrated associations between FWB and various indicators of psychological health (i.e., positive associations with well-being and negative associations with ill-being; Aubrey et al., 2022; Netemeyer et al., 2018; Sorgente & Lanz, 2019). For instance, Aubrey et al. (2022) found that global and specific components FWB explained a significant proportion of the variance in perceived stress ($R^2 = 35.20\%$), psychological distress ($R^2 = 22.30\%$) and life satisfaction ($R^2 = 49.20\%$). Moreover, these relations where statistically significant for participants' global levels of FWB (G-factor), whereas only two relations involving specific facets of FWB (S-factors) were statistically significant. Based on these results, we expect that:

Hypothesis 6 (H6): Profiles with higher global levels of FWB will display higher levels of life satisfaction (*H6a*) and lower levels of perceived stress (*H6b*) and psychological distress (*H6c*) than profiles with lower global levels of FWB.

Research Question 4 (RQ4): How will profiles differing in terms of specific FWB components but displaying similar global levels of FWB differ in terms of life satisfaction (*RQ4a*), perceived stress (*RQ4b*) and psychological distress (*RQ4c*)?

The Possible Influence of Budgeting Practices: Multi-Group Comparisons

It is also critical to document the generalizability of person-centered results to ascertain that the identified profiles reflect more than the unique characteristics of a single sample, especially when relying on a primarily inductive approach (Morin et al., 2016b).

Evidence of generalizability is particularly important when the end goal is to rely on person-centered results to guide the development of interventions targeted at specific profiles of individuals. On the one hand, evidence of generalizability supports the application of similar interventions to different types of individuals while having some confidence that the mechanisms underlying these profiles will remain similar. On the other hand, identifying variations in a profile solution across types of individuals also makes it possible to adapt interventions to their unique context. To address this issue, we investigate the generalizability of our results (i.e., number, structure, inter-individual differences, and size of the profiles, as well as in terms of association between our profiles, their predictors, and their outcomes) across subsamples of individuals relying, or not, on systematic financial budgeting practices. The adoption of financial budgeting practices is a widely recommended practice by various institutions who even provide free training and budgeting tools to help members of the general population become more efficient at managing their own finances (e.g., ACFC, 2022; Barclays, n.d.; CFPB, 2019; Council for Economic Education & Jump $tart, 2021; CPA Canada, n.d.; Money Helper, n.d.; National Bank of Canada, 2018; OECD/INFE, 2020).

From an empirical perspective, however, research remains inconclusive regarding the true value of budgeting practices for FWB. Indeed, although some studies appear to support the value of budgeting as a positive driver of FWB (CFPB, 2015; Gutter & Copur, 2011; Joo & Grable, 2004), others only report a weak association between these variables (Muir et al., 2017). However, Muir et al. (2017) also noted that associations differed across

distinct types of budgeting practices. For instance, the association between FWB and the use of a spreadsheet-based budget (e.g., Microsoft Excel), albeit modest, was stronger than that between FWB and the use of an application-based budgeting tool (e.g., Mint). Despite this weak empirical evidence, several institutions still advocate budgeting as a strong determinant of FWB (e.g., Fairstone, 2020; George Mason University, 2022; Harvard University, 2022). To shed light on this question and help locate the exact type of effect (if any) of budgeting practices, we systematically assess whether our results differ across samples of participants adopting, or not, financial budgeting practices. This approach will allow us to determine whether FWB profiles, as well as their associations with predictors and outcomes, are largely independent of specific financial behaviors, or the extent to which they differ as a function of these behaviors. In the absence of empirical studies on the links between FWB profiles and financial budgeting practices, we leave this facet of the study as an open research question:

> *Research Question 5 (RQ5)*: Will the number of profiles (configural similarity; *RQ5a*), their nature (structural similarity; *RQ5b*), differences between members of specific profiles (dispersion similarity; *RQ5c*), size of the profiles (distributional similarity; *RQ5d*), relations with predictors (predictive similarity; *RQ5e*), and relations with outcomes (explanatory similarity; *RQ5f*) differ across participants relying, or not, on financial budgeting practices?

Method

Participants and Procedure

French-Canadian participants (from the Canadian Province of Québec) were recruited through advertising on social media and snowballing and were asked to complete an online questionnaire on FWB. To be included in the study, they had to be aged 18 or older and have a functional understanding of French. To facilitate recruitment, a total of 40 participants were randomly selected to $50 CAD. A total of 2,235 participants (18 to 43 years old, M_{age} = 36.0; 63.9% women) voluntarily completed the online questionnaire after consenting to participate. Most of them (69.7%) had completed university studies, but only a minority of participants (24.3%) were still enrolled in some form of education program. When compared to the 2019 Québec population (Institut de la statistique du Québec, 2020) our sample included more women (63.9% vs. 50%), had a higher level of education (69.7% vs. 32.8% had a university degree), and was younger (M_{age} = 36.0 vs. 42.4 years). This research protocol was approved by the ethics committee of the first author's institution.

Measures

Measures not already validated in French were adapted to this language using a standardized translation back-translation procedure by bilingual members of the research team (Hambleton, 2005).

FWB

FWB was assessed using Aubrey et al. (2022) optimized French version of Sorgente and Lanz's (2019) *Multidimensional Subjective Financial Well-Being Scale* (MSFWBS-O). This scale includes 25 items to assess the following components of FWB: (a) having money (4 items; e.g., *I have enough funds for everything I need*; α = .820[2]), (b) peer comparisons (3 items; e.g., *My financial situation is better than that of my peers*; α = .746), (c) general subjective financial well-being (9 items; e.g., *I am comfortable with my current financial situation*; α = .929), (d) money management (5 items; e.g., *I am satisfied with the way I manage my money*; α = .918), (e) Financial future (4 items; e.g., *In the near future, I will have enough money to carry out my plans*; α = .825). Aubrey et al. (2022) have demonstrated that this instrument is best represented using a bifactor approach, resulting in a global estimate of FWB (α = .963) and five S-factors reflecting the unique nature of each subscale. All items were rated using a five-point scale ([1] *absolutely false* to *absolutely true* [5]).

Neuroticism

Participants completed neuroticism scale (4 items; e.g., *I have frequent mood swings*; $\alpha = 0.700$) from the French version (Laverdière et al., 2020) of the *Mini-IPIP* (Donnellan et al., 2006) using a 5-point scale ranging from *I totally disagree* (1) to *I totally agree* (5).

[2] We report scale score reliability estimates for the whole sample here, but also report model-based composite reliability (ω) estimates for both subsamples in the online supplements.

Income

Respondents were asked to answer the question, "What is your gross annual income (before taxes)?" by selecting one of six categories: (1) $20,000 CAD and under (selected by 10.8% of the participants), (2) between $20,000 CAD and $39,999 CAD (13.6%); (3) between $40,000 CAD and $59,999 CAD (24.2%), (4) between $60,000 CAD and $79,999 CAD (23.0%), (5) between $80,000 CAD and $99,999 CAD (15.5%), (6) over $100,000 CAD (12.7%). Considering that the mean personal income in Québec is $43,912 CAD (Institut de la statistique du Québec, 2020), it seems reasonable to conclude that our sample earn, on the average, slightly higher than the Québec average (51.3% of our sample reported an income higher than $60,000 CAD).

Savings

Respondents were asked a single question about whether or not they had a financial cushion or emergency fund that could be used to cover unexpected expenses.[3]

Financial Knowledge

Financial knowledge was assessed using a sum score based on three questions (α = .486; e.g., *Suppose you had $100 in a savings account and the interest rate was 2%*

[3] The emphasis was not on investments specifically dedicated to retirement for two reasons: (1) retirement funds differ widely across employees who benefit, or not, from benefit plans as part of their employment, (2) retirement funds vary greatly according to age and tenure (Yao & Cheng, 2017). Given that the presence of a financial cushion is expected to vary less as a function of external factors, this option was chosen to reduce the effect of confounding factors as much as possible. Moreover, the amount of these savings was not measured, as it is likely to vary as a function of several factors, including income (Browning & Lusardi, 1996; Poon & Hon, 2015; Traut-Mattausch & Jonas, 2011), which again would add noise to the model.

per year. After 5 years, how much do you think you would have in the account if you left the money to grow?) taken from Lusardi and Mitchell (2011). The first two questions assessed whether the answer was "higher", "exactly" or "lower" than the sum specified in the question. For the third question, the answer could be "true" or "false". For all three questions, participants could also answer "I don't know" or "I prefer not to say". Although the alpha coefficient associated with this scale is lower than typical alpha reported for psychometric questionnaires, it is important to reinforce that the type of knowledge captured by all three items tap into different content areas, which has led to the recommendation that alpha should ideally be higher than .400 threshold for this type of composite measure (Rieger, 2020). Moreover, our alpha remains higher than that reported in a previous study (.434 in Rieger, 2020), and our analyses rely on an approach (i.e., factor scores) providing a partial correction for unreliability. Perhaps more importantly, the limitations of alpha (e.g., assuming that items have an equal weight) relative to alternative indicators (e.g., McDonald's, 1970 omega coefficient of composite reliability) have long been acknowledged (Sijtsma, 2009; Sijstsma & Pfadt, 2021), leading to the recognition that it only reflects a lower bound. In fact, when we consider the preliminary measurement models used to generate our factor scores (see online supplements), the model-based estimates of composite reliability associated with this factor are far more acceptable (with budgeting practices $\omega = .767$; without budgeting practices $\omega = .741$).

Subjective Financial Skills and Financial Self-Efficacy

Financial self-efficacy was assessed using a six-item scale developed by Lown (2011; e.g., *I lack confidence in my ability to manage my finances*; α = .849). Each item was rated on a four-point scale ranging from *strongly disagree* (1) to *strongly agree* (4). Subjective financial skills were assessed using a five-item scale developed by CFPB (2018; α = .805). Three of those items (e.g., *How often does this statement apply to you? I struggle to understand financial information*) were rated on a five-point scale ranging from *Does not describe me at all* (1) to *Describes me completely* (5). The remaining two items (e.g., "I know how to make complex financial decisions") were rated on a 1-never to 5-always scale. Based on evidence of factor correlations of r = .740 (participants with financial budgeting practices) to .788 (participants without financial budgeting practices) and adequate fit of a solution combining these two sets of items into a single factor (see Tables S1 to S3 of the online supplements for details), both measures were jointly used to assess a single construct, hereafter referred to as *Perceived Financial Efficacy*.

Perceived Stress

Perceived stress was assessed using a 14-item scale (e.g., *During the last 30 days, how often did you feel in control?*; α = .863) developed by Cohen et al. (1983). Items were rated on a five-point scale ranging from *never* (0) to *very often* (4).

Psychological Distress

Psychological distress was assessed using the K6 (Kessler et al., 2002). This 6-item scale (e.g., *During the last 30 days, about how often did you feel so depressed that nothing could cheer you up?*; $\alpha = .874$) measures non-specific symptoms of depression and anxiety experienced over the previous month. All items were rated on a five-point scale ranging from *all of the time* (1) to *none of the time* (5).

Life Satisfaction

Participants rated the five items (e.g., "I am satisfied with my life"; $\alpha = .901$) from the *Satisfaction with Life Scale* (Diener et al., 1985) using a seven-point scale ranging from *strongly disagree* (1) to *strongly agree* (7).

Budgeting Practices

Respondents were first asked if they broke down their expenses by type (i.e., *Do you break down your expenses by type [e.g., groceries, rent, entertainment...], either in writing, electronically or mentally?*). If they answered "yes", they were asked to indicate the frequency (four choices ranging from "once a week" to "less than once a month"), the number of categories (four choices ranging from "between one and three" to "10 or more"), the means used (e.g., "mentally", "in writing"), and whether they felt discomfort if they failed to do this at their usual frequency (four choices: "yes", "moderately", "no" and "I never fail to do it at the usual frequency"). Next, respondents were asked whether they set targets (i.e., *Do you set targets or objectives for your spending? For example, not*

spending more than $100 a week on groceries). If they answered "yes", they were asked to indicate the number of categories (same as above), the means used (same as above), the period for which their spending is planned (six choices ranging from “next week” to “beyond next year”) and the frequency with which they compare budgeted amounts and actual spending (nine choices ranging from “once a day” to “never”). If respondents claimed to compare their planned and actual expenses, they were asked to indicate how often (same as above), the means used (same as above) and whether they felt uncomfortable if this comparison was not made (same as above). Given the lack of scientific consensus, we relied on the consensual conception generally observed in practice. More precisely, for a respondent to be considered as relying on financial budgeting practices, the following elements were required: objectives, a compilation of income and expenses, and a follow-up (i.e., a comparison between planned and actual expenses). On this basis, 1049 participants were considered to rely on financial budgeting practices, while the remaining 1189 participants were considered as not relying on such practices.

Analyses

Preliminary Measurement Models

Before completing our main analyses, we relied on preliminary factor analyses to assess the psychometric properties of our multi-item questionnaires, as well as their measurement invariance (i.e., equivalence) across samples of participants relying, or not, on financial budgeting practices. Factor scores were saved from the most invariant models

(in standardized units with $M = 0$ and $SD = 1$) for our main analyses. Factor scores have the advantage of providing a partial control for unreliability, but most importantly to preserve the nature (e.g., bifactor, measurement invariance) of the measurement models from which they are taken (Morin et al., 2016a, 2016b, 2017). A detailed description of these analyses and of their results (see Tables S4 to S8) is provided in the online supplements.

Latent Profile Analyses

Latent profile analyses (LPA) were estimated using the maximum likelihood robust (MLR) estimator implemented in Mplus 8.10 (Muthén & Muthén, 2023). Given the way our online questionnaire was programmed, there were no missing data. LPA were estimated using 5000 random starts, 1000 iterations, 1000 second stage optimizations, and 100 final optimizations (Hipp & Bauer, 2006). These numbers were respectively increased to 10000, 2000, 2000, and 200 in more complex multigroup models. Solutions including one to eight profiles were first estimated separately in each subsample (with and without financial budgeting practices), allowing the mean, but not the variance, of the FWB factors to differ across profiles (Morin & Litalien, 2019). Indeed, although the free estimation of the variance of the indicators across profiles has been shown to sometimes help achieve a more accurate estimation (Peugh & Fan, 2013), these more complex models resulted in important convergence problems in this study (e.g., nonconvergence, improper parameter estimates), suggesting overparameterization. When this happens, recommendations are to

fall back on simpler models in which these variance parameters are set to equality across profiles (Morin & Litalien, 2019).

To select the optimal number of profiles to retain in each subsample (with and without financial budgeting practices), multiple sources of information need to be considered, including (Marsh et al., 2009; Morin & Litalien, 2019; Muthén, 2003): (1) the substantive contribution of each added profile to the solution, (2) the theoretical consistency of each added profile, and (3) the lack statistical problems associated with each added profile (e.g., nonconvergence, negative variance estimates). The selection of a more specific range of model to contrast using the aforementioned criteria can be loosely guided by statistical indicators (McLachlan & Peel, 2000; Morin & Litalien, 2019). More precisely, better fitting models are indicated by the observation of lower values on the Akaïke Information Criterion (AIC), Bayesian Information Criterion (BIC), Consistent AIC (CAIC), and sample-size Adjusted BIC (ABIC), as well as by a statistically significant Bootstrap Likelihood Ratio Test (BLRT) and adjusted Lo et al.'s (2001) Likelihood Ratio Test (aLMR). However, statistical simulation studies (e.g., Diallo et al., 2016, 2017) have failed to support the relevance of two of these indicators (the AIC and aLMR), which will thus only be reported to ensure a full disclosure of our results. Moreover, these indicators are all strongly dependent on sample size (Marsh et al., 2009). As a result, they often fail to support a specific solution. In this situation, it is recommended to rely on a graphical display (i.e., an elbow plot) in which a plateauing in the rate of decrease of the value of the information criteria helps pinpoint potential solutions (Morin et al., 2011; Morin &

Litalien, 2019). Lastly, we report the entropy, which summarizes the accuracy to which participants can be assigned to specific profiles (ranging from 0 to 1). This descriptive indicator, however, should not be used to guide the selection of an optimal solution (Morin & Litalien, 2019).

Multi-Group Tests of Profile Similarity

Once the optimal number of profiles was determined within each subsample (with and without financial budgeting practices), their similarity was formally tested using a sequential developed by Morin et al. (2016b). Assuming that the same number of profile would be identified across groups (configural similarities), equality constraints across groups are then progressively imposed on the within-profile means of the indicators (structural similarity), within-profile variance of the indicators (dispersion similarity), and size of the profiles (distributional similarity). Each form of similarity is supported at least two indicators out of the BIC, CAIC and ABIC are smaller relative to the previous model (Morin et al., 2016b).

Predictors and Outcomes

The sequential approach proposed by Morin et al. (2016b) for tests of profile similarity can be extended to assess the equivalence of associations between the profiles, their predictors (predictive similarity) and their outcomes (explanatory similarity). Predictors were thus directly included into the final (most similar) model using a multinomial logistic regression link, and a model allowing these associations to differ

across subsamples (with and without financial budgeting practices) was contrasted with a model of explanatory similarity in which these associations were constrained to equality across subsamples. A comparative null model (constraining these effects to be zero) was used as an overarching test of predictors' effects. Likewise, outcomes were directly included to the final (most similar) model and allowed to differ across profiles and subsamples, before being constrained to equality across subsamples while still being allowed to differ across profiles (explanatory similarity). The differences in outcome levels across profiles were estimated suing the multivariate delta method (Raykov & Marcoulides, 2004), implemented via the Mplus' MODEL CONSTRAINT function.

Results

FWB Profiles and Similarity Across Groups

The fit indices associated with the alternative latent profile solutions estimated separately in both subsamples of participants (with and without financial budgeting practices) are reported in the first and second section of Table 1. In both subsamples, all recommended indicators kept on decreasing without converging on any specific solution. However, the elbow plots associated with the information criteria, presented in Figure 1, revealed a plateau (or elbow) in the decrease of their values associated with the four-profile solution in both subsamples. The four-profile solution, as well as the adjacent three- and five- profile solutions were thus more thoroughly inspected. This inspection revealed that each addition resulted in the addition of meaningfully distinct, theoretically consistent, and statistically proper, profiles to the solution. More precisely, if we consider

the five-profile solution illustrated in Figure 2, profiles corresponding roughly to Profiles 1, 2, 3 were already present in the three-profile solution, whereas Profile 5 was added in the four-profile solution, and Profile 4 appeared in the five-profile solution. In contrast, adding a sixth profile only resulted in the arbitrary division of already identified profiles into smaller profiles with a similar shape. The five-profile solution was therefore retained in both subsamples.

Table 1

Fit Results from the Latent Profile Analysis Conducted in This Study

	LL	#fp	Sc	AIC	CAIC	BIC	ABIC	Entropy	aLMR	BLRT
Latent profile analysis: With financial budgeting practices										
1 profile	-7393.340	12	1.299	14810.680	14882.147	14870.147	14832.033	N/A	N/A	N/A
2 profiles	-7324.651	19	1.564	14687.303	14800.459	14781.459	14721.112	.905	.046	< .001
3 profiles	-7259.131	26	1.780	14570.261	14725.106	14699.106	14616.527	.876	.181	< .001
4 profiles	-7180.353	33	1.768	14426.706	14623.241	14590.241	14485.428	.873	.128	< .001
5 profiles	-7140.634	40	1.890	14361.268	14599.492	14559.492	14432.446	.876	.473	< .001
6 profiles	-7104.368	47	1.944	14302.736	14582.649	14535.649	14386.370	.883	.455	< .001
7 profiles	-7071.525	54	1.913	14251.050	14572.652	14518.652	14347.140	.879	.383	< .001
8 profiles	-7037.857	61	2.783	14197.714	14561.005	14500.005	14306.260	.884	.792	< .001
Latent profile analysis: Without financial budgeting practices										
1 profile	-8577.614	12	1.296	17179.228	17252.168	17240.168	17202.051	N/A	N/A	N/A
2 profiles	-8645.215	19	1.621	16968.437	17083.925	17064.925	17004.574	.818	.007	< .001
3 profiles	-8367.345	26	1.924	16786.691	16944.727	16918.727	16836.142	.857	.274	< .001
4 profiles	-8297.365	33	1.769	16660.730	16861.315	16828.315	16723.495	.870	.124	< .001
5 profiles	-8252.127	40	1.797	16584.254	16827.388	16787.388	16660.333	.864	.301	< .001
6 profiles	-8213.067	47	2.003	16520.134	16805.816	16758.816	16609.527	.876	.647	< .001
7 profiles	-8173.266	54	1.749	16454.532	16782.763	16728.763	16557.239	.864	.174	< .001
8 profiles	-8139.783	61	1.696	16401.567	16772.345	16711.345	16517.587	.872	.310	< .001

Table 1

Fit Results from the Latent Profile Analysis Conducted in This Study (continued)

	LL	#fp	Sc	AIC	CAIC	BIC	ABIC	Entropy	aLMR	BLRT
Tests of profile similarity: With vs without financial budgeting practices										
Configural similarity	-16937.743	81	1.833	34037.487	34581.159	34500.159	34242.809	.909	N/A	N/A
Structural similarity	-17010.624	51	1.656	34123.249	34465.561	34414.561	34252.525	.920	N/A	N/A
Dispersion similarity	-17025.170	45	1.682	34140.340	34442.380	34397.380	34254.408	.922	N/A	N/A
Distributional similarity	-17047.884	41	1.857	34177.768	34452.960	34411.960	34281.696	.923	N/A	N/A
Relations with predictors: With vs without financial budgeting practices										
Null model	-28632.669	36	1.017	57337.337	57578.969	57542.969	57428.591	.888	N/A	N/A
Free across groups	-28080.988	84	1.030	56329.976	56893.784	56809.784	56542.902	.904	N/A	N/A
Predictive similarity	-28087.952	60	1.015	56295.905	56698.624	56638.624	56447.995	.903	N/A	N/A
Relations with outcomes: With vs without financial budgeting practices										
Free across groups	-25241.584	42	1.093	50567.167	50849.071	50807.071	50673.631	.902	N/A	N/A
Explanatory similarity	-25259.252	27	1.118	50572.504	50753.728	50726.728	50640.945	.900	N/A	N/A

Note. LL = Log Likelihood; Sc = Scaling; #fp = number of free parameters; AIC = Akaike Information Criterion; CAIC = Consistent AIC; BIC = Bayesian Information criterion; ABIC = Sample-size adjusted BIC; aLMR = Adjusted Lo, Mendel & Rubin test; BLRT = Bootstrap likelihood ratio test.

Figure 1

Elbow Plots Associated with the Latent Profile Solutions Estimated Separately in both Subsamples

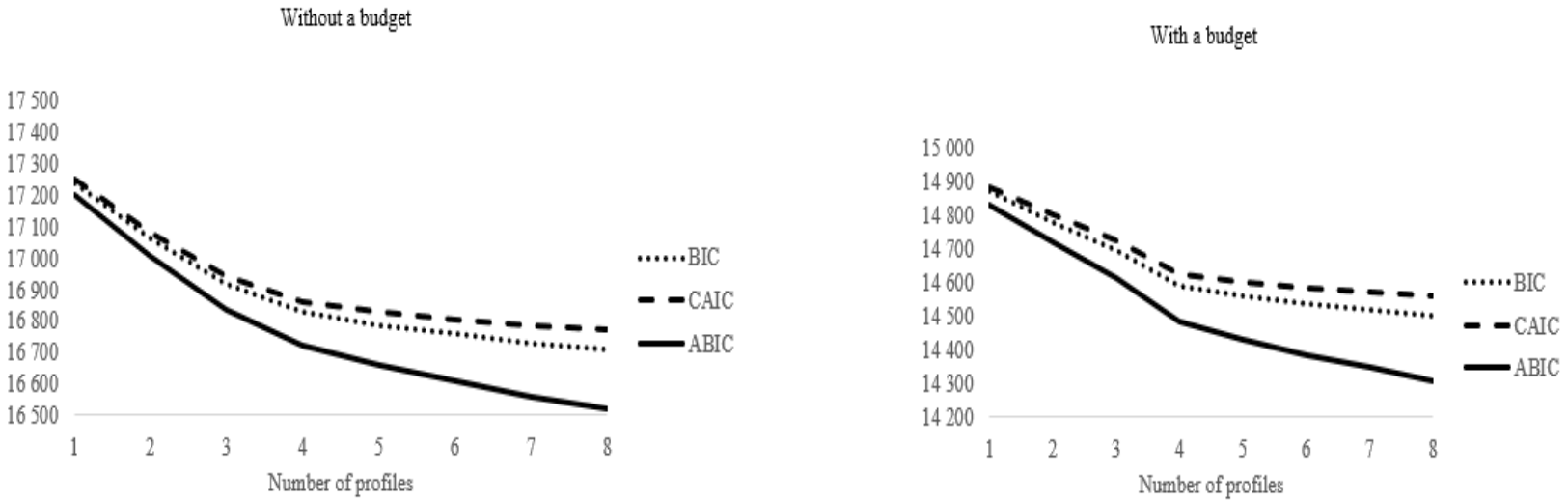
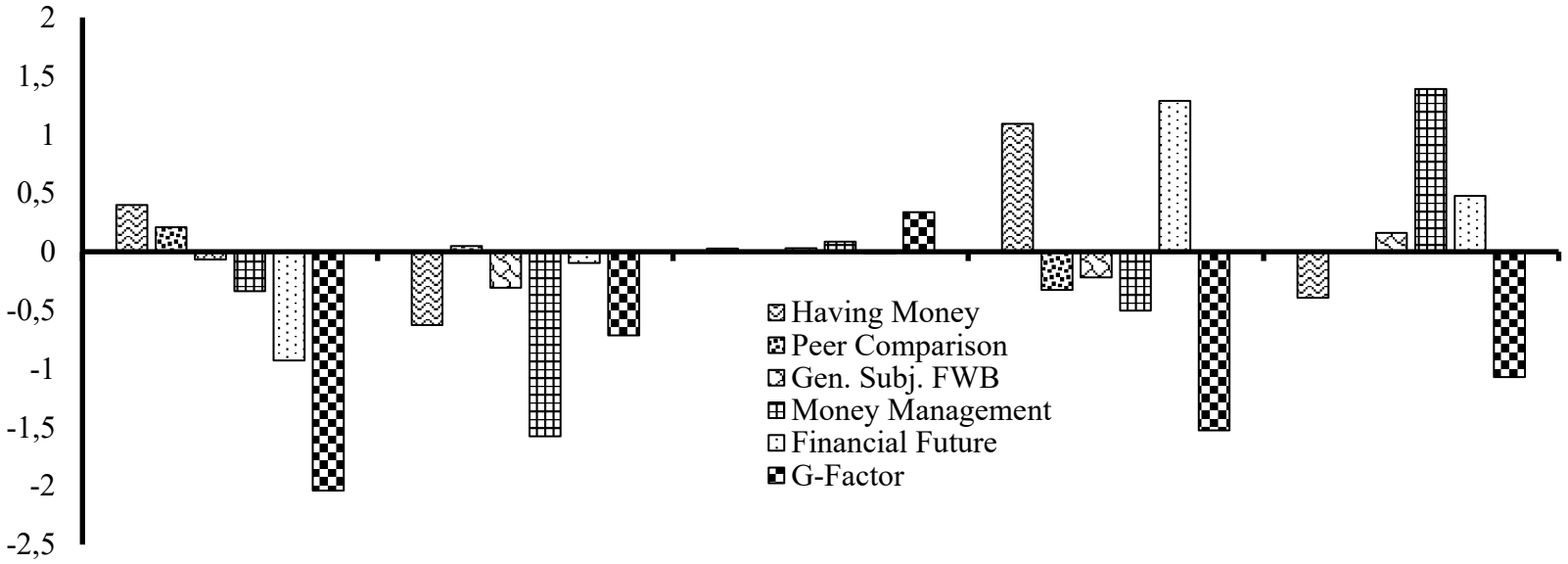


Figure 2

Final Latent Profiles Solution



	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5
No budgeting practices	6.9%	10.1%	77.1%	1.6%	4.3%
With budgeting practices	3.0%	4.9%	79.9%	4.0%	8.2%

Note. Profile 1 = *Very Low FWB with Concerns about the Future*; Profile 2 = *Low FWB with Concerns About Money Availability and Management*; Profile 3 = *Normative-Comfortable*; Profile 4 = *Very Low FWB with Confidence about Current and Future Money Availability*; Profile 5 = *Low FWB with a Positive Future Outlook Anchored in Strong Money Management*.

The results form the test of profile similarity conducted across subsamples for these two five-profile solutions are reported in the third section of Table 1 and support the structural and dispersion similarity of these solutions, but not their distributional similarity, suggesting that only the size of the profiles differ across groups. The results from the retained model of dispersion similarity are illustrated in Figure 2, whereas detailed parameter estimates are reported in Table S9 of the online supplements. Profile 1 displayed the lowest global levels of FWB, accompanied by higher-than-average levels on the Having Money S-factor, slightly higher than average levels on the Peer Comparison S-factor, close to average levels on the General Subjective FWB S-factor, lower than average levels on the Money Management S-factor, and low levels on the Financial Future S-factor. This profile, which we labelled *Very Low FWB with Concerns about the Future*, was slightly more prevalent among participants not relying on financial budgeting practices (6.9%) than among those adopting such practices (3.0%). Profile 2 displayed moderately low levels of global FWB, low levels on the Having Money S-factor, very low levels on the Money Management S-factor, slightly under average levels on the General Subjective FWB S-factor, and close to average levels on the Peer Comparison and Financial Future S-factors. This profile, which we labelled *Low FWB with Concerns About Money Availability and Management*, was also more prevalent among participants not relying on financial budgeting practices (10.1%) than among those adopting such practices (4.9%).

Profile 3 was by far the largest among both subsamples of participants (77.1% of those not relying on financial budgeting practices, and 79.9% of those relying on such practices), and was characterized by above average global levels of FWB accompanied by close to average levels on all S-factors. This profile thus corresponded to the *Normative-Comfortable* profile expected in H2. Profile 4 also displayed very low global levels of FWB and slightly under average levels on the Peer Comparison, General Subjective Well-Being, and Money Management S-factors, but very high levels on the Having Money and Financial Future S-factors. This profile, which we labelled *Very Low FWB with Confidence about Current and Future Money Availability* was slightly more prevalent among participants relying on financial budgeting practices (4.0%) than among those not adopting such practices (1.6%). Profile 5 also displayed low global levels of FWB, accompanied by slightly under average levels on the Having Money S-factor, close to average levels on the Peer Comparison and General Subjective FWB S-factors, high levels on the Financial Future S-factor, and very high levels on the Money Management S-factor. This profile, which we labelled *Low FWB with a Positive Future Outlook Anchored in Strong Money Management,* was slightly more prevalent among participants relying on financial budgeting practices (8.2%) than among those not adopting such practices (4.3%).

These results are perfectly aligned with H1 and H2, revealing a series of profiles displaying low to very low global levels of FWB accompanied by specified areas of confidence or concerns, as well as one large profile evidencing a generally comfortable situation (*Normative-Comfortable*). Moreover, this last profile also tentatively answers

RQ1 by suggesting that positive FWB seems to be more a matter of comfort than thriving. Finally, our results also provide a positive response to RQ5a, RQ5B, and RQ5c by revealing that the number, structure, and dispersion of the profiles generalized to participants relying, or not, on financial budgeting practices. However, in response to RQ5d, they also reveal differences in sizes suggesting that profiles primarily characterized by low to very low global levels of FWB accompanied by specific concerns about their present (*Low FWB with Concerns About Money Availability and Management*) or future (*Very Low FWB with Concerns about the Future*) financial situation were two times more prevalent among participants not relying on financial budgeting practices. In contrast, profiles primarily characterised by low to very low global levels of FWB accompanied by specific areas of confidence about money availability (*Very Low FWB with Confidence about Current and Future Money Availability*) or their financial future (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*) were two times more prevalent among participants relying on financial budgeting practices.

Predictors of FWB Profiles

The fit of the alternative predictive models is reported in Table 1 and support the model of predictive similarity (associated with the lowest CAIC, BIC, and ABIC), thus providing a positive response to RQ5e. The results from this model are reported in Table 2.

Table 2

Associations between the Predictors and the Likelihood of Profile Membership

	Latent profile 1 Versus 5		Latent profile 2 Versus 5		Latent profile 3 Versus 5		Latent profile 4 Versus 5		Latent profile 1 Versus 4	
	Coef. (*SE*)	OR	Coef. (*SE*)	OR	Coef. (*SE*)	OR	Coef. (*SE*)	OR	Coef. (*SE*)	OR
Sex	-.153 (.410)	.858	-.749 (.359)*	.473	-.195 (.276)	.823	1.205 (.433)**	3.337	-1.358 (.463)**	.257
Neuroticism	-.085 (.221)	.919	-.472 (.193)*	.624	-.852 (.167)**	.427	.250 (.266)	1.284	-.335 (.257)	.715
Income	.533 (.180)**	1.703	.949 (.157)**	2.582	.681 (.125)**	1.975	.116 (.222)	1.123	.416 (.211)*	1.516
Savings	-.634 (.353)	.530	.573 (.334)	1.774	1.551 (.324)**	4.714	-1.286 (.465)**	.276	.652 (.489)	1.919
OFK	-.405 (.391)	.667	-.018 (.330)	.983	-.304 (.288)	.738	-.398 (.462)	.672	-.007 (.449)	.993
PFE	-1.877 (.443)**	.153	-1.609 (.341)**	.200	1.258 (.281)**	3.520	-1.509 (.441)**	.221	-.368 (.440)	.692
	Latent profile 2 Versus 4		Latent profile 3 Versus 4		Latent profile 1 Versus 3		Latent profile 2 Versus 3		Latent profile 1 Versus 2	
	Coef. (*SE*)	OR	Coef. (*SE*)	OR	Coef. (*SE*)	OR	Coef. (*SE*)	OR	Coef. (*SE*)	OR
Sex	-1.954 (.446)**	.142	-1.400 (.412)**	.247	.042 (.368)	1.043	-.554 (.292)	.575	.596 (.389)	1.815
Neuroticism	-.723 (.256)**	.485	-1.102 (.252)**	.332	.767 (.195)**	2.153	.380 (.156)*	1.462	.387 (.185)*	1.473
Income	.832 (.211)**	2.299	.564 (.208)**	1.758	-.148 (.156)	.862	.268 (.120)**	1.307	-.416 (.165)*	.660
Savings	1.859 (.475)**	6.416	2.836 (.470)**	17.050	-2.185 (.322)**	.113	-.977 (.297)**	.376	-1.207 (.304)**	.299
OFK	.381 (.440)	1.463	.094 (.447)	1.099	-.101 (.368)	.904	.286 (.271)	1.331	-.387 (.339)	.679
PFE	-.100 (.407)	.905	2.768 (.417)**	15.920	-3.135 (.432)**	.043	-2.868 (.289)**	.057	-.267 (.378)	.765

Note. * $p \leq .05$; ** $p \leq .01$; Coef. = coefficient; SE = standard error of the coefficient; OR = odds ratio; Sex was coded female = 0 and male = 1; Savings were coded no savings = 0 and savings = 1; OFK = Objective financial knowledge; PFE = Perceived financial efficacy; The coefficients (coefs.) and OR reflect the effects of the predictors on the likelihood of membership into the first listed profile relative to the second listed profile; Profile 1 = *Very Low FWB with Concerns about the Future*; Profile 2 = *Low FWB with Concerns About Money Availability and Management*; Profile 3 = *Normative-Comfortable*; Profile 4 = *Very Low FWB with Confidence about Current and Future Money Availability*; Profile 5 = *Low FWB with a Positive Future Outlook Anchored in Strong Money Management.*

In response to RQ2, these results first show that *men* had a higher likelihood of membership into Profile 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) relative to Profiles 1 (*Very Low FWB with Concerns about the Future)*, 2 (*Low FWB with Concerns About Money Availability and Management*), 3 (*Normative-Comfortable*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), and into Profile 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*) relative to Profile 2 (*Low FWB with Concerns About Money Availability and Management*). These results suggests that Management than women.

Second, the results indicate that emotional stability (i.e., low levels of ***neuroticism***) was associated with a higher likelihood of membership into Profiles 2 (*Low FWB with Concerns About Money Availability and Management*) and 3 (*Normative-Comfortable*) relative to Profiles 1 (*Very Low FWB with Concerns about the Future*), 4 (*Very Low FWB with Confidence about Current and Future Money Availability*), and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), and into Profile 3 (*Normative-Comfortable*) relative to Profile 2 (*Low FWB with Concerns About Money Availability and Management*). These results are consistent with Hypothesis H3, showing that emotional stability (i.e., low neuroticism) is accompanied by a higher likelihood of membership into the *Normative-Comfortable* profile relative to all other profiles. However, finding that emotional stability was accompanied by a higher likelihood of membership into Profile 2 (*Low FWB with Concerns About Money Availability and*

Management) relative to all profiles except Profile 3 (*Normative-Comfortable*) was unexpected and suggest, in response to RQ3a, that the combination of high and low scores in the specific components of FWB observed in the remaining profiles could be partly impacted by neuroticism.

Participants with a higher *income* were more likely to belong to Profiles 1 (*Very Low FWB with Concerns about the Future*), 2 (*Low FWB with Concerns About Money Availability and Management*) and 3 (*Normative-Comfortable*) relative to Profiles 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), as well as into Profile 2 (*Low FWB with Concerns About Money Availability and Management*) relative to Profiles 1 (*Very Low FWB with Concerns about the Future*) and 3 (*Normative-Comfortable*). These results are partially consistent with Hypothesis H4a, showing that high income is accompanied by a higher likelihood of membership into the *Normative-Comfortable* profile relative to Profiles 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management)*. However, finding that income was accompanied by a higher likelihood of membership into Profiles 1 (*Low FWB with Concerns About Money Availability and Management*) and 2 (*Low FWB with Concerns About Money Availability and Management*) was unexpected and suggests, in response to RQ3b, that lower income may help generate the specific patterns of strengths observed in Profiles 4 and 5. Still, the association between income and membership in these profiles

(1 and 2) relative to the *Normative-Comfortable* profile is harder to explain, although it does support the claim that money is not the sole driver of FWB and that it is possible to have a higher income and yet to feel financially unwell.

It was particularly interesting to note that results related to the presence of savings only partially mimicked those associated with income. More precisely, participants with savings had a higher likelihood of belonging to Profile 3 (*Normative-Comfortable*) relative to Profiles 1 (*Low FWB with Concerns About Money Availability and Management)*, 2 (*Low FWB with Concerns About Money Availability and Management)*, 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management)*, thus providing some level of support to H4b. Moreover, savings were also associated with a higher likelihood of membership into Profile 2 (*Low FWB with Concerns About Money Availability and Management*) relative to Profiles 1 (*Low FWB with Concerns About Money Availability and Management*) and 4 (*Very Low FWB with Confidence about Current and Future Money Availability*), and into Profile 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*) relative to Profile 4 (*Very Low FWB with Confidence about Current and Future Money Availability*). Although results related to the possible benefits of savings for membership in Profile 2 are consistent with H4b, as this profile presents a higher global level of FWB than Profiles 1 and 4, the likely benefits of savings in relation to Profile 5 are more likely to be linked to participants'

strong specific levels of Money Management skills observed in Profile 5 relative to 4 (RQ3c).

Supporting H5b (and providing a negative answer to RQ3d), no associations were found between participants' levels of *financial knowledge* and their likelihood of profile membership. In contrast, and supporting H5a, perceived levels of *financial efficacy* were related to a higher likelihood of belonging into Profile 3 (*Normative-Comfortable*) than into Profiles 1 (*Low FWB with Concerns About Money Availability and Management*), 2 (*Low FWB with Concerns About Money Availability and Management*), 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*). In response to RQ3e, these perceptions of financial skills and self-efficacy were also related to a higher likelihood of membership into the profile displaying the highest specific levels of Money Management (Profile 5: *Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), than into Profiles 1 (*Low FWB with Concerns About Money Availability and Management*), 2 (*Low FWB with Concerns About Money Availability and Management*), and 4 (*Very Low FWB with Confidence about Current and Future Money Availability*).

Outcomes of Profile Membership

The fit of the alternative outcome models is reported in Table 1 and support the model of explanatory similarity (associated with the lowest CAIC, BIC, and ABIC), thus providing a positive response to RQ5f. The results from this model are reported in Table 3.

Table 3

Mean Outcome Levels Across Profiles

	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Tests of significance
	M [CI]	M [CI]	M [CI]	M [CI]	M [CI]	
Perceived stress	1.215 [.951; 1.479]	.642 [.486; .799]	-.284 [-.327; -.242]	1.273 [1.002; 1.543]	.824 [.674; .975]	1 = 4 > 2 = 5 > 3
Psychological distress	1.183 [.914; 1.452]	.622 [.456; .788]	-.252 [-.294; -.211]	1.254 [.949; 1.559]	.798 [.639; .956]	1 = 4 > 2 = 5 > 3
Life satisfaction	-1.255 [-1.415; -1.095]	-.396 [-.548; -.244]	.255 [.211; .299]	-.852 [-1.039; -.664]	-.864 [-.984; -.744]	3 > 2 > 4 = 5 > 1

Note. M = Mean; CI = 95% confidence interval; Profile 1 = *Very Low FWB with Concerns about the Future*; Profile 2 = *Low FWB with Concerns About Money Availability and Management*; Profile 3 = *Normative-Comfortable*; Profile 4 = *Very Low FWB with Confidence about Current and Future Money Availability*; Profile 5 = *Low FWB with a Positive Future Outlook Anchored in Strong Money Management.*

These results first show that levels of perceived stress and psychological distress where at their highest in Profiles 1 (*Very Low FWB with Concerns about the Future*) and 4 (*Very Low FWB with Confidence about Current and Future Money Availability*), which did not differ from one another, followed by Profiles 2 (*Low FWB with Concerns About Money Availability and Management*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), which also did not differed from another, and lowest in Profile 3 (*Normative-Comfortable*). Similarly, levels of life satisfaction where at their highest in Profile 3 (*Normative-Comfortable*), followed by Profile 2 (*Low FWB with Concerns About Money Availability and Management*), and then by Profiles 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), which did not differ from one another, and lowest in Profile 1 (*Very Low FWB with Concerns about the Future*).

Taken together, these results support H6b and H6C by showing that the lowest levels of perceived stress and psychological distress are associated with the profile displaying the highest global level of FWB (Profile 3: *Normative-Comfortable*), as well as by revealing that levels of perceived stress and distress get increasingly worse as the global levels of FWB decrease. Less consistent with H6a however was the observation that Profile 2 (*Low FWB with Concerns About Money Availability and Management*) displayed higher levels of life satisfaction than Profile 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*), in which global levels of FWB were

higher. This difference can potentially be explained by the primarily future orientation of Profile 5, which could suggest that members of this profile tolerate a currently lower level of life satisfaction with the goal of achieving better standards of living later in life. Likewise, Profile 4 (*Very Low FWB with Confidence about Current and Future Money Availability*) and 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management*) displayed undifferentiated levels of life satisfaction, which could be related to the high levels of specific FWB facets found in these profiles, which may help to offset the slight difference in global levels of FWB observed in these profiles. Lastly, our results provide a primarily negative answer to RQ4b and RQ4c, showing that deviations on specific facets of FWB results in very little variations in terms of perceived stress and psychological distress across profiles with similar global level of FWB. However, the response to RQ4a is slightly more complex, as some of the results, as outlined earlier in this paragraph, do showcase the possible values of specific components of FWB (i.e., Having Money and Financial Future in Profile 4 and Money Management and Financial Future in Profile 5) for life satisfaction.

Discussion

To enhance our understanding of FWB, this study aimed to identify the configuration of different FWB profiles, considering their stability according to whether or not a budget is adopted, and to examine their relations with various predictors and general well-being outcomes. Based on latent profile analyses, our results revealed five FWB profiles that were largely replicated across participants relying, or not, on financial budgeting, despite

some variations in their relative frequency of occurrence. This finding tends to support the generalization of the observed FWB profiles (see Morin et al., 2016b), suggesting that their configuration is largely budget-independent despite budgeting being a strongly encouraged and widespread financial practice (e.g., FCAC, 2022; Barclays, n.d.; CFPB, 2019; OECD/INFE, 2020). The assessment of profiles with different predictors sheds light on variables liable to act on profile membership. Perceived financial efficacy, the presence of savings and emotional stability were associated with greater likelihood of membership into the most favorable profile (*Normative-Comfortable*) relative to all other profiles. The identified profiles shared clear associations with key indicators of general well-being (life satisfaction, perceived stress and psychological distress) with the more favorable outcome levels associated with the *Normative-Comfortable* profile, whereas the least favorable ones were observed in the *Very Low FWB with Concerns about the Future* profile and the *Very Low FWB with Confidence about Current and Future Money Availability* profile.

Theoretical Contributions

Distinct FWB Profiles Independent of Budget Use

Unlike previous studies on FWB that rely exclusively on a variable-centered approach, this study opted for a person-centered approach that allowed us to identify five distinct profiles, thus increasing our understanding of the multidimensional nature of FWB, by delving into the combined role of multiple components of FWB based on the unique configurations observed in distinct profiles of individuals. This approach offers a unique view of the multidimensional nature of FWB over traditional variable-centered in

the field. For example, the findings of a variable-centered study by Netemeyer et al. (2018) revealed that the mean of the Expected Future Financial Security component ($M = 3.06$) was higher than the mean of Money Management Stress component ($M = 2.80$), but without considering the possibility that mean differences are attributable to distinct individual subpopulations. Although the range of possible configurations is more limited when the scale includes only two components (Netemeyer et al., 2018), the observation is similar to studies that have relied on a multidimensional scale (e.g., Aubrey et al., 2022; Iannello et al., 2021). This is a novel approach to the FWB field, providing an innovative and deeper understanding of the configuration of FWB components. The global FWB (G factor) allowed us to differentiate between profiles, as it varies considerably across profiles, but it is particularly useful in characterizing the profile with the largest number of individuals (i.e., Profile 3 [*Normative-Comfortable*]), as it is the only one with a global FWB that is higher than the mean. This profile characterizing individuals who feel globally comfortable financially also displayed very low variability in specific factors in comparison of all the other profiles. In contrast, the four profiles displaying low to very low global levels of FWB were accompanied by specified areas of confidence or concerns. While laying the foundation for examining FWB profiles, these results also contribute to understanding the dynamics that operate between the different components of the construct.

Predictors

The results offer empirical support for the conceptual framework proposed by Brüggen et al. (2017), in regard to several personal factors likely to influence FWB. They add to this framework by identifying the relative contribution of predictors in FWB membership profile, suggesting that the predictive value vary from one factor to another and thus is not necessarily uniform to a broad category that encompasses different types of personal factors (e.g., sociodemographic, skill-attitude-motivation, personality trait). Perceived financial efficacy appeared to facilitate the likelihood of membership into the more favorable profile with an above-average global FWB (i.e., Profile 3 = *Normative-Comfortable*) relative to all other profiles. The results are consistent with those reported by previous variable-centered studies (CFPB, 2017; Netemeyer et al., 2018) and also further contribute to the field in that perceived financial efficacy was found to predict membership to the only profile displaying an above-average Money Management factor (i.e., Profile 5 = *Low FWB with a Positive Future Outlook Anchored in Strong Money Management*) relative to all profiles except Profile 3 (*Normative-Comfortable*). This is a novel finding given that, to our knowledge, no prior study had investigated the relation between this FWB component and perceived financial efficacy. Importantly, the role of perceived financial efficacy underscores the relevance of looking beyond financial knowledge when assessing financial literacy, as proposed by various researchers (e.g., Goyal et al., 2021; Hensley, 2015; Netemeyer et al., 2018; OECD/INFE, 2020; Remund, 2010; Warmath & Zimmerman, 2019). Indeed, our results showed that objective financial knowledge did not predict FWB membership profile, which are consistent with those of

variable-centered studies (Losada-Otalora et al., 2020; Mahdzan et al., 2019; Utkarsh et al., 2020).

Another key predictor of FWB profile membership was the presence of savings as it was found to predict membership to the more favorable profile (*Normative-Comfortable*) relative to all others. These findings are consistent with those of variable-centered studies relating savings and FWB (Anvari-Clark & Ansong, 2022; Fan & Henager, 2022; Mahdzan et al., 2019; Ponchio et al., 2019; Riitsalu & van Raaij, 2020).

The results indicate that personal income does not consistently predict membership of the only profile with a higher-than-average global FWB, and it does not predict membership of the *Normative-Comfortable* profile versus Profile 1 (*Very Low FWB with Concerns about the Future)*, namely the profiles with the highest and lowest global FWB levels respectively. These findings differ from those reported in previous studies that have relied on a unidimensional scale of FWB (Joo & Grable, 2004; Riitsalu & Murakas, 2019; Walker et al., 2018), given that, in this case, the relations were not constant. As for studies that relied on a multidimensional scale (Netemeyer et al., 2018; Sorgente & Lanz, 2019) and found that the relation varied across dimensions, our results are consistent with these results given that the predictive value seems to be at the level of the specific factors rather than the global FWB factor. Although people might expect that it is necessary to have a high income to experience FWB, the present results show that this is not necessarily the case. As suggested by Kahneman and Deaton (2010), above a certain income level,

individual's well-being tends to stagnate, and therefore other variables need to be considered. One of these variables could be the perception of income level, which is associated with objective income, but only moderately (Grable et al., 2013). Perceived income is more strongly related to well-being than objective income (Pereira & Coelho, 2013). Indeed, two persons could have the same income level, but still have very different perceptions of its sufficiency. As suggested in the present study, whereas a high income predicted membership of Profile 2 (*Low FWB with Concerns About Money Availability and Management*) relative to all other profiles, this profile stands out as the one with the lowest perceived level of income adequacy.

Although it would have been reasonable to expect that the results pertaining to savings would have mimicked those associated with income, it was not exactly the case. More specifically, if we focus on Profile 2 (*Low FWB with Concerns About Money Availability and Management*), it is possible to see that a high income predicts the membership to this profile relative to all other profiles, yet the presence of savings only predicts membership to this profile relative to Profiles 4 (*Very Low FWB with Confidence about Current and Future Money Availability)* and 1 (*Very Low FWB with Concerns about the Future)*. A possible explanation for this finding is that the presence of savings depends not only on *objective* income, but also on other variables such as the *perceived* level of income (Shin & Kim, 2018) and people who perceive their income as inadequate, as it is the case for Profile 2, tend to save less (Shin & Kim, 2018). Future research should be conducted to investigate this hypothesis.

With respect to personality traits, a low level of neuroticism was found to predict membership of Profile 3 (*Normative-Comfortable*) relative to all other profiles. These results are consistent with those reported in studies by Chhatwani (2022) and Tharp et al. (2020), although, in the present study, the sample was considerably more diverse in terms of age, indicating that the relation is not limited to individuals aged 50 years and older. Interestingly, the *Low FWB with Concerns About Money Availability and Management* profile was associated with a lower level of neuroticism. This suggests that even if individuals characterized with emotional stability can typically be calmer and happier in their personal life (Costa & McCrae, 1980; Hills & Argyle, 2001; Steel et al., 2008), they are nonetheless inclined to lower global FWB accompanied with worries about money availability and management. As we can only speculate on this matter, it would be informative for future studies to delve further into the emotional nature of money management.

Although there is no scientific consensus about sex differences (e.g., CFPB, 2017; Delafrooz & Paim, 2011; Riitsalu & Murakas, 2019), our results shed new light on the question by showing that sex differences play a role for a single FWB configuration. In fact, being a man predicted membership to Profile 4 (*Very Low FWB with Confidence about Current and Future Money Availability)* relative to all other profiles, and this profile did not stand out from others in terms of its global FWB level (except the *Normative-Comfortable* profile). Rather, it stands out in terms of two specific factors (Having Money and Financial Future), although low income and lack of savings were associated with a

higher likelihood of membership to Profile 4 (*Very Low FWB with Confidence about Current and Future Money Availability)* relative to all profiles except Profile 5 (*Low FWB with a Positive Future Outlook Anchored in Strong Money Management)* for income and Profile 1 (*Very Low FWB with Concerns about the Future)* for savings. This result is potentially attributable to the idea that men are generally overconfident about their financial skills (Aristei & Gallo, 2022; Bucher-Koenen et al., 2021). Further research should be carried out to investigate this hypothesis.

Outcomes

Although a limited number of studies have examined the outcomes of FWB (Nanda & Banerjee, 2021), the present results contribute to this underexplored body of knowledge. Our results indicate that the profile with the highest Global FWB was the profile with the highest level of life satisfaction and lower levels of stress and psychological distress, corroborating findings of previous studies (Aubrey et al., 2022; Netemeyer et al., 2018; Sorgente & Lanz, 2019). An indication that Global FWB plays an important role is that the rankings for the relevant indicators of psychological health are very close to the rankings for the Global FWB. However, the present study contributes further by enabling the identification of profiles that are more vulnerable to different indicators of general well-being, namely Profiles 1 (*Very Low FWB with Concerns about the Future)* and 4 (*Very Low FWB with Confidence about Current and Future Money Availability)*. The identification of these profiles may represent the first step towards establishing more targeted interventions adapted to individual differences.

There seems to be a certain dissonance between what Profile 4 (*Very Low FWB with Confidence about Current and Future Money Availability)* individuals perceive in relation to their financial situation (i.e., high levels on the components Having Money and Financial Future) versus reality, which results in these individuals experiencing higher-than-average stress and psychological distress, and below-average life satisfaction. A tentative explanation for this result is that individuals who belong to the profile might be more materialistic, and that the *pain of knowing* is a characteristic generally associated with materialistic people (Donnelly et al., 2012). Further research is needed to further explore this idea.

Practical Contributions

Given the importance of perceived financial efficacy, it is important to examine effective ways of increasing it. Among the various ways of increasing financial self-efficacy, an integral aspect of perceived financial efficacy, Bandura (1997) suggested that enactive mastery experience is the preferred approach. This entails that parents, educators and financial practitioners should give priority to opportunities where they can provide their children, students or clients with such an experience. Simply passing on information, whether in a course or in an exchange, is not sufficient (Fernandes et al., 2014; Hastings et al., 2013), although it can form the basis for developing financial self-efficacy. Given the importance of savings, knowledge imparted and enactive mastery experience should focus on this element and not necessarily on budgeting, given that the latter does not affect the configuration of FWB profiles. From an intervention perspective, this topic has not

yet been extensively studied in the field of personal finance (Birkenmaier et al., 2022). Intervention approaches could, however, consider the predictors identified, so as to better target their impact on the different FWB profiles observed.

The results also identified two profiles that seemed more susceptible to indicators of general ill-being (Profiles 1 [*Very Low FWB with Concerns about the Future*] and 4 [*Very Low FWB with Confidence about Current and Future Money Availability*], which could help guide intervention efforts geared to individuals in these profiles in particular. This applies not only to parents, educators and financial practitioners, but also to government bodies whose policies and programs can help the most vulnerable. The configurations of these profiles are different from the others, and their particularities must be considered. However, a major challenge to keep in mind in devising initiatives is that those who could benefit most from help are often less inclined to ask for it (Meier & Sprenger, 2007).

Limitations and Directions for Future Research

The present study has a number of limitations that must be considered when interpreting the results. First, our study was based on a sample of people who volunteered to participate. It is therefore possible that a selection bias has led to an over-representation of participants who feel concerned about their financial situation. Unfortunately, it is not possible to empirically assess this possibility. Similarly, the nature of our sample makes it difficult to generalize our results to the population as a whole, particularly with respect to language, education, income and the proportion of women. It would be important to

assess the extent to which our results would generalize to more diverse and representative samples of the general population, as well as of different countries, cultures and language groups. Second, our study is based solely on self-reported data, which entails that certain biases may have played a role in the results. However, biases associated with these methods are unlikely to inflate the relations observed in multivariate analyses such as those carried out in this study (Siemsen et al., 2010). Future research should attempt to build on the present study by incorporating additional sources (e.g., the participant's partner) as well as objective data (e.g., a physiological measure of stress). Third, our study examined FWB at a single point in time, without considering its temporal stability. It would therefore be important for future research to assess the extent to which FWB is likely to vary over time, and the direction of its relations with criterion-related measures. Fourth, only the presence of savings was assessed, without considering the presence of other assets or liabilities. While the presence of savings plays a role in predicting profiles, its contribution may have been different if savings had taken debt into account, i.e., if net worth (assets minus liabilities) had been considered. It is not clear whether the presence of savings has a greater impact than net worth. It would therefore be interesting to further explore this question, though it may be difficult to do so in practice, given that determining net worth requires a high level of financial knowledge as well as a solid understanding of one’s global financial situation. Fifth, it was not assessed whether the purpose of the savings affected the association with the profiles. It is possible that the presence of savings intended for retirement, the purchase of long-term assets (e.g., house), leisure projects or savings to cover emergencies do not have the same contribution to profile membership.

Sixth, the adoption of a budget was based on criteria that were defined, to our knowledge, for the first time. It would be important to establish the relevance of these criteria in future research. Seventh, the present study focused on the contribution of a limited number of predictors and outcomes. It would be relevant to broaden the understanding of profile predictors (e.g., financial resilience, consumer type (tightwad vs. spendthrift) and associated outcomes in various life contexts (e.g., marital satisfaction, work motivation). Eighth, in terms of the measurement of perceived financial efficacy, the fact that the fit indices of the scale combining the two original scales (i.e., perceived financial efficacy and perceived skills) into one (with a single factor) were acceptable suggests that, at the measurement level, the two concepts were similar. Although the conceptualization of financial literacy includes three components (i.e., knowledge, skills and financial self-efficacy), further research is required to determine how best to assess financial self-efficacy and perceived skills separately. Finally, it is important to note that the model proposed by Brüggen et al. (2017), includes a category of predictors referring to life events that has not been studied given the multitude of life events that can potentially affect FWB and the difficulty of establishing a basis for comparison. However, the inclusion of such events could be the focus of future research.

Conclusion

Our study contributed to deepening our understanding of FWB by focusing on the configuration of its various components. Based on a *person-centered analysis*, we were able to identify five distinct FWB profiles that remain largely independent of whether or

not an individual adopts a budget. We were also able to highlight certain personal factors that predict profile membership, as well as general well-being outcomes. These results point to promising avenues of future research and intervention, which could involve various players from educational, governmental or banking spheres, in order to increase individuals' FWB and overall functioning in life.

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Discussion générale

Les écrits scientifiques suggèrent que le BEF joue un rôle appréciable dans le fonctionnement des individus, que ce soit sur le plan de leur satisfaction de vie ou encore du bien-être global (Arber et al., 2014; Netemeyer et al., 2018; Shim et al., 2009; Sorgente & Lanz, 2019). Malgré une prolifération des études sur le sujet dans la dernière décennie (Lee et al., 2023; Nanda & Banerjee, 2021), certains éléments cruciaux à une pleine compréhension du construit demeurent flous, voire inexplorés; ce qui, en outre, peut s'avérer inquiétant dans un secteur d'étude émergeant. Premièrement, la conceptualisation et l'opérationnalisation du BEF ne sont pas claires; alors que certains chercheurs optent pour une perspective unidimensionnelle, d'autres privilégient une perspective multidimensionnelle. Tout en fragmentant le champ d'études, cela fait en sorte qu'il est difficile de savoir ce qui est réellement mesuré et de comparer les études sur le sujet. Deuxièmement, les études actuelles s'appuient exclusivement sur l'examen du BEF à l'aide d'une approche statistique centrée sur les variables, ce qui tend à négliger les différences individuelles inhérentes au construit, tout en limitant la compréhension de la dynamique qui s'opère entre ses différentes dimensions. En effet, la configuration des états de BEF peut varier d'un individu à l'autre (en supposant que le BEF soit multidimensionnel). Il est aussi possible que des groupes d'individus partagent des configurations de BEF similaires, mais distinctes d'autres sous-groupes. Afin de pallier ces lacunes, la présente thèse vise dans un premier temps à clarifier la conceptualisation du BEF et la façon optimale de le mesurer. Ensuite, elle cherche à identifier les

configurations de BEF pouvant être spécifiques à des sous-groupes d'individus et de documenter certains déterminants et conséquences qui leur seraient tout aussi distincts. Le premier article s'est concentré sur la conceptualisation et l'opérationnalisation du BEF. Une analyse approfondie des conceptualisations et opérationnalisations proposées dans les études précédentes a été effectuée. Une attention particulière a été apportée à la façon dont le BEF est mesuré par le biais d'une comparaison des échelles existantes. L'échelle se démarquant avantageusement des autres, soit la MSFWBS, a ensuite été analysée de façon plus approfondie quant à ses qualités psychométriques en recourant à différents modèles statistiques (c.-à-d., AFC, ESEM, AFC bifactorielle et ESEM bifactorielle.).

Une fois la conceptualisation et l'opérationnalisation du BEF clarifiées et l'échelle optimale identifiée (répondant ainsi aux objectifs du premier article), il devenait désormais possible, dans le deuxième article, de s'intéresser aux différentes configurations (profils) de BEF observables au sein d'un nouvel échantillon. Les variables permettant de prédire l'appartenance à un profil plutôt qu'un autre ainsi que les conséquences propres à chaque profil ont également été étudiées.

Synthèse des principaux résultats obtenus

Les prochaines sections présentent d'abord les résultats des deux articles. Les apports théoriques et pratiques sont ensuite discutés. Finalement, les limites des études sont exposées et discutées alors que des pistes de recherches futures sont proposées.

Article 1

Une recension des écrits a permis de constater que les auteurs semblent s'entendre sur le caractère multidimensionnel du BEF. En ce qui concerne les dimensions qui le composent, certaines semblent faire l'unanimité, soit la suffisance des revenus et la satisfaction quant à sa situation financière. Il convient de mentionner que les auteurs ont aussi mis en exergue l'importance de distinguer la situation financière actuelle de celle anticipée, puisqu'un individu peut entretenir une perception différente des deux situations.

Compte tenu que les études sur le BEF sont récentes et que plusieurs éléments semblent toujours ambigus, il paraissait souhaitable de mieux situer la définition du BEF en lien à un concept largement établi. Ce concept est celui de l'expérience conjointe de bien-être psychologique et subjectif, ou encore le bien-être *optimisé* tel que défini par Keyes et al. (2002) qui tend à refléter la notion de bien-être général (Chen et al., 2013; Disabato et al., 2016; Keyes et al., 2002). S'appuyant sur les travaux recensés de même que sur les éléments consensuels spécifiques au BEF, la définition du BEF proposée dans le cadre de cette thèse est la suivante : un état psychologique positif caractérisé par un sentiment de contentement par rapport à sa situation financière personnelle et par une perception positive quant à sa capacité financière de subvenir à ses besoins actuels et futurs.

Une recension des échelles existantes mesurant le BEF a mis en évidence qu'elles peuvent être regroupées en trois catégories : (1) les échelles composées d'un seul item;

(2) les échelles dont les qualités psychométriques ne sont pas divulguées; et (3) les échelles dont les qualités psychométriques sont démontrées. Dans une optique où l'objectif poursuivi est de faire ressortir l'échelle qui se distingue avantageusement des autres, il va de soi que les échelles des deux premières catégories ne peuvent être retenues. En ce qui concerne les échelles de la troisième catégorie, celles du CFPB (2017), de Kempson et Poppe (2017) et de Prawitz et al. (2006) ne peuvent être retenues, puisqu'elles ne comportent qu'une seule dimension, ce qui va à l'encontre du consensus scientifique observé quant au caractère multidimensionnel du BEF. Il ne reste que deux échelles qui comprennent plus d'une dimension. La PFWBS de Netemeyer et al. (2018) comprend deux dimensions qui mettent l'accent sur la distinction entre la situation actuelle et future. Quant à la MSFWBS de Sorgente et Lanz (2019), celle-ci comprend cinq dimensions, dont deux qui permettent la distinction entre la situation actuelle et future. Les trois autres dimensions sont liées à la gestion de ses finances personnelles, au bien-être financier général et à la comparaison avec les pairs. D'ailleurs, Sorgente et Lanz (2019) sont les seules à considérer l'aspect de comparaison avec les pairs dans leur conceptualisation du BEF. Le fait que la MSFWBS comporte davantage de dimensions que la PFWBS n'en fait pas pour autant une échelle de qualité supérieure. Dans l'optique où le BEF ne semble pas se résumer uniquement à la distinction entre la situation actuelle et future, la MSFWBS offre la possibilité de dresser un portrait du BEF plus riche et nuancé du construit et c'est pour cette raison, outre ses qualités psychométriques appréciables, que cette échelle a été retenue pour les analyses subséquentes.

La MSFWBS, explicitement destinée aux adultes âgés entre 18 et 29 ans, comporte 25 items et cinq dimensions : (1) *Suffisance des Revenus*; (2) *Comparaison avec les Pairs*; (3) *État Général de BEF*; (4) *Gestion de ses Finances Personnelles*; et (5) *Situation Financière Future*. La troisième dimension comprend, comme son nom l'indique, des items assez généraux qui semblent, à première vue, peu ciblés. Il faut aussi souligner qu'il s'agit de la seule dimension qui comporte aussi des items qui infèrent à l'aspect émotionnel du BEF (p. ex., « Ma situation financière me stresse au quotidien »), ce qui est cohérent avec la définition proposée de BEF qui comprend à la fois le caractère eudémonique et hédonique. L'analyse des qualités psychométriques de l'échelle réalisée dans le cadre de cette thèse révélait toutefois certains éléments qui devaient être analysés de plus près. Premièrement, une analyse factorielle confirmatoire (AFC) a été utilisée pour valider l'échelle, mais les indices d'ajustement (CFI = 0,902; RMSEA = 0,075 [0,071 – 0,080, $p < 0{,}001$]) étaient tout juste acceptables selon les balises suggérées par Hu et Bentler (1999), soient qu'un CFI au-dessus de 0,900 est acceptable, mais devrait idéalement être supérieur à 0,950 et qu'un RMSEA inférieur à 0,080 est acceptable, mais devrait idéalement être inférieur à 0,06. De plus, la présence de corrélations élevées entre certains facteurs (c.-à-d., $r = 0{,}793 – 0{,}811$ pour les corrélations entre les facteurs *Suffisance des Revenus*, *Comparaison avec les Pairs* et *État Général de BEF*) questionnait la spécificité de ces derniers. Cela met en lumière la possibilité que le modèle utilisé (AFC) n'était pas optimal dans un contexte où il est attendu que les dimensions du BEF soient interreliées. Dans de telles circonstances, des études (Alamer & Marsh, 2022; Asparouhov & Muthén, 2009; Marsh et al., 2009; Shao et al., 2022) ont démontré qu'il

était préférable de recourir à un modèle *Exploratory Structural Equation Modeling* (ESEM). De plus, la possibilité que les facteurs représentaient les composantes spécifiques d'un construit global n'avait pas été analysée. Dans cette éventualité, des études (p. ex., Morin et al., 2016a, 2017) ont soutenu que le recours à un modèle bifactoriel (AFC ou ESEM) pouvait mieux refléter les données.

Dans le cadre de la présente thèse, les qualités psychométriques de la MSFWBS ont été testées auprès d'un nouvel échantillon composé de 454 personnes et les modèles AFC, AFC bifactoriel, ESEM et ESEM bifactoriel ont été comparés en suivant la démarche proposée par Morin et al. (2016a, 2016b, 2020). Les indices d'ajustement du modèle AFC étaient acceptables (CFI = 0,917, TLI = 0,903, RMSEA = 0,067), mais tout de même inférieurs à ceux du modèle ESEM (CFI = 0,956, TLI = 926, RMSEA = 0,059). De plus, les corrélations entre les facteurs du modèle ESEM (r = 0,345–0,696; Mr = 0,534) étaient nettement inférieures à celles du modèle AFC (r = 0,669–0,903; Mr = 0,795). Quant à la définition des dimensions, les saturations élevées et les indicateurs de cohérence interne dévoilaient qu'autant dans le modèle AFC que ESEM, les facteurs étaient bien définis. Globalement, ces résultats soutiennent que le modèle ESEM reflète mieux les données. Cependant, une analyse plus fine des saturations a révélé la présence de nombreuses saturations croisées significatives ($|\lambda|$ = 0,003–0,544; $M|\lambda|$ = 0,120), ce qui suggère la présence potentielle d'un facteur global (Facteur G) non considéré dans le modèle (Morin et al., 2020) et donc, la pertinence de tester un modèle ESEM bifactoriel. Les indices d'ajustement du modèle ESEM bifactoriel se sont avérés excellents (CFI = 0,974,

TLI = 0,950, RMSEA = 0,049), le facteur global était bien défini et fiable ($|\lambda|$ = 0,543–0,877; $M|\lambda|$ = 0,729, ω = 0,979) et les facteurs spécifiques étaient également suffisamment bien définis, à l'exception du facteur spécifique *État Général de BEF*. En effet, les items liés à ce facteur servent très peu à définir le facteur spécifique *État Général de BEF* qui leur est associé, mais jouent tout de même un rôle appréciable dans la définition du facteur global, justifiant ainsi la nécessité de les conserver. Il en résulte que le modèle ESEM bifactoriel était celui qui reflétait le mieux les données. Toutefois, deux items semblaient être associés à la mauvaise dimension, puisqu'ils présentaient des saturations nettement plus élevées sur d'autres dimensions que celles prévues initialement. L'item GS7 (« J'ai assez d'argent pour acheter ce dont j'ai besoin ») a donc été associé à la dimension *Suffisance des Revenus* et l'item FF4 (« Je suis satisfait(e) de mon niveau de planification visant à atteindre mes objectifs financiers à long terme [par exemple : l'achat d'une voiture] ») à la dimension *Gestion de ses Finances Personnelles.*

Il est à noter que dans un modèle ESEM bifactoriel, lorsque les items et facteurs ne changent pas, les indices d'ajustement demeurent les mêmes (Herschberger & Marcoulides, 2013). Cela fait en sorte que bien que les indices d'ajustement soient demeurés inchangés, les nouvelles associations ont permis d'éliminer les saturations croisées problématiques.

Les résultats des tests d'invariance ont démontré que le modèle est complètement invariant selon l'âge et le revenu personnel. Le modèle a aussi dévoilé une invariance de

type *partial strict* pour le revenu du ménage et le sexe. L'item MM1 (« Je suis satisfait(e) de la façon dont je gère mon argent ») était plus fiable au niveau des hommes par rapport aux femmes. L'item GS7 (« Je suis satisfait(e) de ma situation financière actuelle ») était plus fiable pour les ménages ayant un revenu annuel supérieur à 90 000 $.

L'analyse de la validité convergente de l'échelle MSFWBS a été réalisée en la comparant à trois autres échelles destinées à mesurer le BEF. Deux échelles étaient unidimensionnelles, soit celle du CFPB (2017) et la *Financial Anxiety Scale* (Shapiro & Burchell, 2012) alors que l'échelle multidimensionnelle était la PFWBS de Netemeyer al. (2018). Afin d'obtenir des scores sur la PFWBS, une comparaison de différents modèles (c.-à-d., AFC, AFC bifactorielle, ESEM et ESEM bifactorielle) a été effectuée de la même façon qu'avec la MSFWBS. Comme pour la MSFWBS, le modèle ESEM bifactoriel était celui qui correspondait le mieux aux données. Il est cependant intéressant de souligner que le facteur spécifique destiné à mesurer le bien-être par rapport à la situation future n'était pas très bien défini. Les résultats des tests montrent que le facteur global de la MSFWBS avait de fortes corrélations avec le FAS, le CFPB ainsi que le facteur global de la PFWBS. Quant aux facteurs spécifiques qui étaient moins bien définis, soit le facteur *État Général de BEF* de la MSFWBS et le facteur *Sécurité Financière Future Attendue* de la PFWBS, ceux-ci n'étaient pas significativement corrélés à aucun autre facteur. Cela met en lumière le fait que les deux facteurs spécifiques destinés à mesurer le BEF par rapport à la situation anticipée (c.-à-d., facteur *Situation Financière Future* de la MSFWBS et *Sécurité Financière Future Attendue* de la PFWBS) ne semblent pas mesurer

la même chose. Cela est possiblement lié à ce qui a été mentionné précédemment par rapport à la dimension *Sécurité Financière Future Attendue* de la PFWBS qui met davantage l'accent sur les actions effectuées et non sur comment une personne perçoit (de façon cognitive) son avenir. Quant au facteur spécifique *Comparaison avec les Pairs* de la MSFWBS, qui rappelons-le est unique à la conceptualisation proposée par Sorgente et Lanz (2019), il est intéressant de constater qu'il ne corrèle pas significativement avec d'autres facteurs. En ce qui concerne les deux facteurs destinés à mesurer le BEF par rapport à la situation actuelle, soit le facteur *Suffisance des Revenus* de la MSFWBS et *Stress lié à la Gestion Financière Courante* de la PFWBS, ceux-ci étaient fortement corrélés. Parmi les six facteurs de la MSFWBS (incluant le facteur global), seulement deux facteurs étaient significativement corrélés, mais faiblement, soit le facteur global et le facteur spécifique *Situation Financière Future*.

La validité critériée a été testée en analysant dans quelle mesure les scores obtenus sur la MSFWBS permettent de prédire les scores sur trois conséquences théoriques s'attachant au fonctionnement individuel : le niveau de stress perçu (*Perceived Stress Scale* de Cohen et al., 1983), la satisfaction de vie (*Satisfaction with life scale* de Diener et al., 1985) et la détresse psychologique (*Psychological Distress Scale* de Kessler et al., 2002). Les résultats montrent que le BEF explique une part importante de la variance au niveau du stress perçu (R^2 = 35,20 %), de la détresse psychologique (R^2 = 22,30 %) et de la satisfaction de vie (R^2 = 49,20 %). Le facteur global de BEF était significativement corrélé avec les trois variables et cette association était négative dans le cas du stress perçu

et de la détresse psychologique alors qu'elle était positive pour la satisfaction de vie. Du côté des facteurs spécifiques, un seul lien significatif, quelque peu étonnant, a été décelé. En effet, le facteur spécifique *Situation Financière Future* est positivement lié à la détresse psychologique, ce qui apparait contre-intuitif à première vue. Cela suggère qu'un individu ayant un niveau de confiance vis-à-vis de sa situation future supérieur à son bien-être financier global tend à manifester un niveau appréciable de stress et de détresse psychologique.

Article 2

Malgré un intérêt croissant de la communauté scientifique envers le BEF (Nanda & Banerjee, 2021), aucune étude à ce jour n'avait porté sur l'identification de profils de BEF. Privilégiant les méthodes centrées sur les variables plutôt que sur les personnes, les études ne tenaient pas compte des différentes configurations de BEF. En effet, il existe possiblement des configurations du BEF spécifiques à des sous-groupes d'individus qui partagent des similitudes quant aux différentes dimensions. Autrement dit, l'étude de l'article 2 reposait sur une approche centrée sur la personne qui suppose que les participants sont tirés de sous-groupes ayant différents ensembles de paramètres, contrairement aux études centrées sur les variables qui supposent que les participants proviennent d'une seule population (Morin et al., 2017). Les analyses centrées sur les personnes deviennent spécialement pertinentes lorsqu'une variable multidimensionnelle est à l'étude, et ce, afin d'enrichir la compréhension de la dynamique qui s'opère entre les dimensions du construit. Il demeure possible qu'aucune étude ne se soit intéressée à

l'identification de profils de BEF en raison de l'émergence récente des échelles multidimensionnelles du BEF, malgré les études réalisées par Netemeyer et al. (2018), Sorgente et Lanz (2019) et, désormais, Aubrey et al. (2022) soutenant clairement la nature multidimensionnelle du construit.

Le deuxième article visait : (1) l'identification de profils de BEF permettant de caractériser diverses configurations; (2) évaluer l'apport de certaines variables dans la prédiction de l'appartenance aux profils; et (3) analyser certaines manifestations du fonctionnement individuel associées aux profils. Une meilleure connaissance de ces éléments devrait éventuellement faciliter la mise en place d'interventions mieux ciblées et plus efficaces. Finalement, compte tenu du nombre important de sources suggérant l'adoption d'un budget (p. ex., Council for Economic Education & Jump $tart, 2021; CFPB, 2019; FCAC, 2022; OECD/INFE, 2020), cet article visait aussi à déterminer si la caractérisation des profils est indépendante des comportements financiers, soit de l'utilisation ou non d'un budget.

S'appuyant sur les résultats de l'article 1, la version optimisée de l'échelle de Sorgente et Lanz (2019) a été utilisée pour identifier les profils de BEF, et ce, auprès d'un nouvel échantillon de 2235 personnes. Avant de procéder aux analyses de profils, des analyses préliminaires ont été effectuées pour s'assurer de la structure factorielle de cette version optimisée. Il s'agissait d'une première occasion de reproduire les résultats obtenus dans le premier article, et ce, tout en considérant l'adoption ou non d'un budget. Il s'avère

que le modèle qui s'agençait le mieux aux données était le modèle ESEM bifactoriel, soit le même que celui du premier article. Une fois de plus, les indices d'ajustement étaient excellents (CFI avec budget = 0,985, CFI sans budget = 0,984; TLI avec budget = 0,971, TLI sans budget = 0,969; RMSEA avec budget = 0,034, RMSEA sans budget = 0,038) et les facteurs bien définis, à l'exception du facteur spécifique *État Général de BEF*, tout comme cela a été observé dans le premier article.

L'analyse des données a permis d'établir que le nombre optimal de profils était de cinq. La similitude des profils a été testée en comparant les profils des personnes qui utilisaient un budget (N = 1049) par rapport à celles qui n'en utilisaient pas (N = 1186) en suivant la séquence proposée par Morin et al. (2016b). Les analyses ont montré que les deux groupes avaient le même nombre de profils et que les moyennes et variances des dimensions au sein des profils étaient les mêmes, et ce, qu'une personne ait adopté un budget ou pas. La seule différence entre les personnes utilisant un budget ou non se situait au niveau de la proportion d'individus dans chaque profil.

Il faut d'abord souligner que la vaste majorité des répondants (79,9 % avec budget et 77,1 % sans budget) se retrouvent dans le profil 3, soit le seul ayant un niveau global de BEF supérieur à la moyenne. Avec une proportion aussi élevée de personnes dans le profil 3, il est évident que la proportion d'individus appartenant aux autres profils n'est pas élevée. Tout de même, lorsqu'on compare la taille des profils des personnes utilisant un budget on non, il se dégage que la proportion de personnes dans les profils qui se

caractérisent par des niveaux plus faibles que la moyenne sur presque tous les facteurs (profils 1 et 2) est presque deux fois plus élevée pour les personnes n'utilisant pas de budget. De l'autre côté, où les profils se démarquent par certains facteurs nettement plus élevés que la moyenne (profils 4 et 5), la proportion de personnes utilisant un budget y est deux fois plus élevée. Quant au profil normatif, soit celui qui regroupe le plus grand nombre d'individus, il n'y a pas de différence notable entre la proportion d'individus qui utilisent un budget ou non.

De tous les profils, il n'y a que le profil 3 qui affiche des niveaux supérieurs à la moyenne sur toutes les dimensions, bien que ces niveaux soient seulement légèrement supérieurs à la moyenne. Il apparait donc que l'atteinte d'un niveau de BEF supérieur à la moyenne soit davantage une question de confort que d'une situation où l'on observe des niveaux très élevés sur les différentes dimensions composant le BEF. Il faut aussi souligner qu'il s'agit du seul profil ayant un facteur global de BEF au-dessus de la moyenne. La variabilité au niveau des facteurs spécifiques est très faible alors que pour les autres profils elle est non seulement plus marquée, mais également débalancée, c'est-à-dire que certains facteurs sont au-dessus de la moyenne alors que d'autres sont inférieurs à la moyenne. Le profil 1 se démarque par le plus faible niveau du facteur global, mais qui montre tout de même des niveaux légèrement supérieurs à la moyenne sur les facteurs *Suffisance des Revenus* et *Comparaison avec les Pairs*. Le profil 2 se démarque par des niveaux inférieurs à la moyenne sur tous les facteurs, à l'exception du facteur *Comparaison avec les Pairs*, qui est légèrement supérieur à la moyenne. Ce profil est aussi

celui où le niveau du facteur *Gestion de ses Finances Personnelles* est nettement plus faible que les autres profils. Le profil 4 se démarque par des niveaux particulièrement élevés des facteurs *Suffisance des Revenus* et *Situation Financière Future*, mais avec un niveau global de BEF nettement inférieur à la moyenne. Le profil 5 se caractérise par un niveau nettement plus élevé que la moyenne du facteur *Gestion de ses Finances Personnelles*.

Tel que suggéré par Morin et al. (2016b), des régressions logistiques multinomiales ont été effectuées afin d'examiner les relations entre des variables prédictrices et les profils de BEF. Les variables étudiées étaient d'ordres sociodémographiques (c.-à-d., sexe, revenu et présence d'économies), d'autres étaient liées à la compétence-attitude-motivation (c.-à-d., perception de compétence, autoefficacité financière, connaissances financières) et une à la personnalité (c.-à-d., trait de névrosisme).

Les variables qui permettaient de prédire l'appartenance au profil 3 par rapport à tous les autres profils étaient le névrosisme (faible niveau), la présence d'économies et l'efficacité financière perçue[1] (élevée). Le revenu, le sexe et les connaissances financières

[1] Les indices d'adéquation du modèle CFA combinant les données des échelles d'autoefficacité financière et de compétences financières perçues étaient acceptables autant pour les participants n'utilisant pas de budget que ceux qui en utilisent un (CFI = 0,933 et 0,941; TLI = 0,900 et 0,912; RMSEA = 0,082 et 0,071). Les paramètres analysés étaient également acceptables (λ = 0,416 à 0,873 et 0,357 à 0,838; M_λ = 0,612 et 0,562; ω = 0,873 et 0,838). La combinaison des deux échelles s'avère ainsi justifiée. L'invariance du modèle a également été testée et les indices d'adéquation du modèle de configuration étaient acceptables (CFI = 0,935; TLI = 0,905; RMSEA = 0,077 [90% CI = 0,071 à 0,083]) et le modèle s'est avéré complètement invariant. Faisant état du nouveau construit, le terme employé pour désigner la combinaison de l'autoefficacité financière et la perception de compétence est *efficacité financière perçue*.

ne permettaient donc pas de prédire l'appartenance au seul profil affichant un niveau global de BEF plus élevé que la moyenne. D'ailleurs, les connaissances financières mesurées objectivement ne permettaient pas de prédire l'appartenance à aucun profil. En ce qui concerne le revenu, seule l'appartenance au profil 2 par rapport à tous les autres profils pouvait être prédite par un revenu élevé. Quant au sexe, être un homme permettait de prédire l'appartenance au profil 4 par rapport à tous les autres profils.

En se basant sur les résultats obtenus dans le premier article par rapport à l'apport du BEF sur le stress perçu, la détresse psychologique et la satisfaction de vie, il n'est pas étonnant de constater que les profils affichant un plus faible niveau global de BEF sont aussi ceux les plus fortement associés aux indicateurs négatifs de fonctionnement individuel. En effet, par rapport à tous les autres profils, le profil 3 est plus fortement associé à des niveaux moindres de détresse psychologique et de stress perçu et un à niveau plus élevé de satisfaction de vie par rapport à tous les autres profils. À l'inverse, les individus rapportant des niveaux plus élevés de détresse psychologique et de stress perçu sont ceux appartenant aux profils 1 et 4 (moyennes équivalentes), alors qu'une moindre satisfaction de vie est observée auprès de ceux du profil 1.

Ces résultats mettent en lumière quelques aspects particulièrement intéressants par rapport au profil 4. En effet, l'absence d'économies et un revenu faible permettent de prédire l'appartenance à ce profil par rapport à tous les autres profils (sauf le profil 1 pour les économies et le profil 5 pour les revenus). Or, les individus de ce profil affichent des

niveaux nettement plus élevés sur les facteurs *Suffisance des Revenus* et *Situation Financière Future*, mais ont tout de même un faible niveau de BEF global combiné aux niveaux de stress perçu et de détresse psychologique les plus élevés (équivalents à ceux du profil 1). Ce niveau de bien-être spécialement élevé par rapport à leur situation actuelle et future ne semble donc pas être lié à la présence d'économies ou à un revenu élevé. Parmi les hypothèses pouvant potentiellement expliquer cette dissonance apparente, il y a le fait que les hommes, soit un prédicteur de l'appartenance à ce profil par rapport à tous les autres profils, puissent avoir tendance à surestimer leurs compétences financières (Aristei & Gallo, 2022; Bucher-Koenen et al., 2021). Une autre explication possible pourrait être que ces individus soient particulièrement matérialistes, lesquels sont plus enclins au déni en regard de leur situation financière réelle (Donnelly et al., 2012). Une autre caractéristique liée au matérialisme est la tendance à se comparer défavorablement par rapport aux autres (Kim et al., 2017) et le profil 4 est le seul ayant un niveau inférieur à la moyenne sur le facteur *Comparaison avec les Pairs*. Il s'agit donc d'un autre élément qui pointe vers la possibilité que les personnes associées au profil 4 soient davantage matérialistes, ce qui ouvre à des pistes de recherche futures.

Un revenu élevé permet de prédire l'appartenance au profil 2 par rapport à tous les autres profils. Bien qu'il pourrait être attendu que le niveau de BEF soit plus élevé que la moyenne, cela n'est pas le cas. Ce profil se distingue particulièrement par la faiblesse du facteur *Gestion de ses Finances Personnelles* et le fait qu'un faible niveau d'efficacité financière perçue prédise l'appartenance à ce profil dans un ratio 17.54 pour 1 par rapport

au profil 3. Il semble donc vraisemblable que le faible niveau d'efficacité financière perçue soit l'élément principalement néfaste au fonctionnement individuel des personnes appartenant au profil 2.

Le profil 5 se caractérise par des niveaux plus élevés que la moyenne sur tous les facteurs à l'exception du facteur *Suffisance des Revenus* et le facteur global. Il semble donc que l'insuffisance perçue des revenus soit particulièrement problématique, puisque le BEF global est tout de même inférieur à la moyenne. Le fait qu'un faible niveau de revenus prédise l'appartenance à ce profil par rapport aux profils 1, 2 et 3 n'est donc pas étonnant dans ce cas-ci. Malgré cette faiblesse de revenus, le niveau du facteur *Gestion de ses Finances Personnelles* est nettement plus élevé que pour les autres profils, ce qui n'est vraisemblablement pas étranger au fait qu'un niveau élevé d'efficacité financière perçue permette de prédire l'appartenance à ce profil par rapport aux profils 1, 2 et 4. Bien que ce profil soit associé à de plus faibles revenus, les individus de ce profil semblent tout de même se trouver en meilleure posture en ce qui concerne la satisfaction de vie, la détresse psychologique et le stress perçu.

Comparativement aux autres profils, le profil 1 affiche un niveau nettement plus faible sur le facteur *Situation Financière Future* alors que les autres facteurs ne se démarquent pas de façon particulièrement défavorable par rapport aux autres profils. Cette réalité occupe donc vraisemblablement une place fort importante, puisque c'est le profil affichant le plus faible niveau global de BEF ainsi que le plus faible niveau de satisfaction

de vie, le niveau le plus élevé de détresse psychologique et de stress perçu (ex aequo avec le profil 4). L'absence d'économies permet de prédire l'appartenance au profil 1 par rapport au profil normatif-confortable, mais pas le revenu, ce qui laisse croire que les revenus ne sont pas reliés à l'absence d'économies dans ce cas-ci.

Implications de la thèse

La présente thèse a permis d'importantes avancées scientifiques en lien avec le bien-être financier. Les prochaines sections traiteront plus précisément de l'implication des résultats sur le plan théorique ainsi que des implications pratiques.

Implications théoriques

Les résultats de la présente thèse ont des implications théoriques qui sont présentées en fonction de leur nature, soit (1) la conceptualisation; (2) l'opérationnalisation; (3) les déterminants; ainsi que (4) les conséquences liées au fonctionnement de l'individu.

Conceptualisation

Certaines études proposent d'évaluer le BEF sans même en définir le concept. À la suite de la synthèse des écrits, la thèse a permis d'offrir une définition affinée de la notion de BEF qui s'aligne mieux avec la recherche plus vaste sur le bien-être. La conceptualisation proposée tient compte de la nature multidimensionnelle du construit, ce qui enrichit les propositions de Netemeyer et al. (2018) et Sorgente et Lanz (2019). Dans une optique où l'analyse de la capacité des différentes échelles à mesurer adéquatement

le BEF est un objectif visé, il est essentiel de s'appuyer sur une conceptualisation claire. Avec une telle conceptualisation du BEF, il devenait possible d'examiner et élargir l'opérationnalisation du construit.

Opérationnalisation

Premièrement, bien que les chercheurs s'entendent sur l'aspect multidimensionnel du BEF, seulement deux études ont démontré l'existence de plusieurs dimensions qui sous-tendent le BEF, soit Netemeyer et al. (2018) et Sorgente et Lanz (2019). La nature des dimensions proposées dans ces deux études n'était pas la même, ce qui fait en sorte qu'il n'était pas possible de dresser un portrait clair de l'opérationnalisation du BEF. Or, les résultats de cette thèse soutiennent que le BEF est un construit multidimensionnel et qu'il ne se limite pas à l'unique distinction entre la situation actuelle et future. Ils dévoilent en outre que l'échelle optimisée MSFWBS (initialement proposée par Sorgente & Lanz, 2019) est, parmi celles évaluées, la plus appropriée pour mesurer ce construit. La supériorité du modèle ESEM bifactoriel ne se limite pas un examen statistique, mais contribue de manière appréciable à la compréhension du BEF. Le BEF doit s'opérationnaliser comme un construit global reflétant les éléments en commun parmi cinq dimensions distinctes (Suffisance des Revenus, Comparaison avec les Pairs, État Général de BEF, Gestion de ses Finances Personnelles et Situation Financière Future) qui, pour la plupart, parviennent à conserver un certain de niveau de spécificité qui va au-delà de la définition du construit global. Ces résultats novateurs ont d'abord été soutenus dans une première étude qui visait à clarifier la conceptualisation du BEF et à faire ressortir

l'échelle à privilégier et ensuite dans une seconde étude réalisée auprès de 2235 répondants qui visait l'identification de profils de BEF.

Deuxièmement, l'échelle MSFWBS a initialement été validée auprès d'un échantillon d'adultes âgés entre 18 et 29 ans et était destinée à cette population. Dans leur étude, Sorgente et Lanz (2019) ont aussi effectué des tests d'invariance par rapport au sexe, à l'âge, à la situation de logement ainsi qu'au statut d'emploi. Sa validité auprès d'une population plus vaste était donc inconnue. Les résultats issus de la présente thèse ont ainsi permis d'élargir l'opérationnalisation du construit à une population plus étendue en fonction de diverses caractéristiques sociodémographiques d'intérêt. Les résultats obtenus dans cette thèse montrent clairement que les propriétés psychométriques de la MSFWBS demeurent excellentes auprès d'une population âgée de plus de 29 ans. L'invariance a aussi été soutenue à l'égard d'autres variables, dont l'invariance complète selon le revenu personnel. Comme l'invariance par rapport au revenu (personnel ou du ménage) n'avait pas été analysée auparavant, il s'agit d'un élément novateur et pertinent, surtout pour la recherche sur le BEF. À quelques exceptions près, l'échelle s'est également avérée invariante par rapport aux variables du revenu du ménage et du sexe. De fait, deux items (un par variable) n'étaient pas aussi fiables dans les deux groupes comparés, ce qui nous obligera à porter une attention particulière à ces items lors de comparaisons éventuelles.

Troisièmement, l'échelle MSFWBS avait seulement été validée auprès d'une population italienne et portugaise, ce qui limitait la généralisation des résultats obtenus.

Désormais, il sera possible d'approfondir la compréhension du BEF auprès d'autres populations à l'aide d'une version en français dont les qualités psychométriques sont éprouvées.

Quatrièmement, les études sur le BEF avaient jusqu'ici exclusivement privilégié une approche centrée sur les variables par rapport à centrée sur les personnes. Il était donc impossible de savoir comment se manifestaient les composantes du BEF au sein de sous-groupes d'individus, ce qui limitait dès lors notre compréhension du construit. L'identification des profils est certes une avancée importante sur le plan théorique, mais constitue également un premier pas vers la mise en place d'interventions mieux ciblées visant à améliorer le BEF. Les résultats indiquent la présence de cinq profils distincts de BEF. L'un des profils obtenus se distingue particulièrement des autres quant à sa taille, puisqu'il regroupe près de 80 % des personnes, mais aussi parce qu'il est le seul dont le facteur global de BEF est supérieur à la moyenne. L'analyse des profils a aussi permis de faire ressortir clairement leurs spécificités. Ces résultats ajoutent ainsi à la recherche sur le BEF permettant de mieux caractériser la configuration des différentes dimensions inhérentes au construit.

Cinquièmement, l'apport du budget dans le BEF demeure un élément largement ignoré par la communauté scientifique. Si certains affirment qu'il joue un rôle important (p. ex., CFPB, 2015; Joo & Grable, 2004), d'autres arrivent plutôt à la conclusion opposée (p. ex., Gutter & Copur, 2011; Muir et al., 2017). Devant ces résultats équivoques, cette

thèse a permis de jeter un éclairage novateur sur le budget quant à son apport dans la configuration des profils. En analysant la similitude des profils, cela permettait non seulement de savoir si la configuration des profils était généralisable à l'adoption d'un budget, mais aussi d'en élargir la compréhension. Les résultats ont dévoilé que le nombre ainsi que la configuration (moyennes et variances) des profils sont les mêmes, qu'une personne adopte un budget ou pas. Cependant, la taille des profils n'est pas tout à fait la même. La taille des profils est très similaire en ce qui a trait au profil normatif. Toutefois, il a été possible de constater que la proportion de personnes n'utilisant pas de budget était presque deux fois plus élevée dans les profils affichant très peu de facteurs au-dessus de la moyenne. D'un autre côté, la proportion de personnes utilisant un budget était presque deux fois plus élevée dans les profils présentant des facteurs au-dessus de la moyenne. Même s'il est difficile de comparer ces résultats à ceux d'études précédentes qui ont mis en relation le budget au bien-être selon une perspective orientée sur les variables, ils y contribuent en dégageant que les comportements financiers (du moins l'adoption d'un budget) agissent peu dans la caractérisation des profils de BEF. En d'autres mots, la dynamique qui s'opère entre les dimensions de BEF est similaire qu'une personne adopte ou non un budget, ce qui tend à attester du caractère prototypique des profils observés. Bien que ces résultats permettent de raffiner l'opérationnalisation du construit, il sera important d'étudier d'autres comportements financiers susceptibles d'affecter la configuration des profils de BEF (p. ex., comparer les prix lors de l'achat d'un produit ou service, paiement de produits ou services immédiatement vs étalement).

Déterminants

L'identification de cinq profils de BEF est certes novatrice, mais l'examen des variables qui permettent de prédire l'appartenance aux profils offre un portrait plus précis de la situation sur lequel pourront s'appuyer d'éventuelles interventions. Les résultats de l'article 2 ont permis l'identification, parmi certaines variables d'ordre sociodémographique, d'autres liées à la compétence-attitude-motivation et d'autres encore liées à la personnalité, des prédicteurs exerçant un rôle prédictif ou celle n'ayant aucune valeur prédictive, soit les connaissances financières mesurées objectivement. Bien que l'approche (c.-à-d., centrée sur la personne) diffère, dans l'ensemble, ces résultats corroborent ceux des études précédentes dans le cas de la présence d'économies, de l'efficacité financière perçue, du revenu personnel et des connaissances objectives. Quant au névrosisme, il s'agit d'un élément nouveau à la compréhension du BEF. Dans le cas du sexe, malgré l'absence de consensus, les résultats corroborent ceux des études qui suggèrent l'apport non négligeable du sexe dans le BEF (p. ex., Chatterjee et al., 2019; Delafrooz & Paim, 2011). La contribution de la thèse à la compréhension des déterminants du BEF se dévoile plus spécialement dans la prédiction des profils, ce qui nuance considérablement l'état des connaissances. Il se dégage que certains déterminants précis peuvent prédire l'appartenance à un profil spécifique, sans pour autant prédire l'appartenance à d'autres profils. Les prédicteurs permettant de prédire l'appartenance au seul profil affichant un niveau de BEF global supérieur à la moyenne sont les suivants : l'efficacité financière perçue (élevée), le fait d'avoir des économies et le névrosisme (faible). En ce qui concerne

les autres profils, les prédicteurs permettant de prédire l'appartenance par rapport à tous les autres profils sont le revenu pour le profil 2 et le sexe pour le profil 4.

Conséquences liées au fonctionnement de l'individu

Il est évident que, puisqu'aucune autre étude n'avait examiné les profils de BEF, les conséquences associées à ces profils étaient aussi inconnues. Les résultats de cette thèse ont donc permis de faire la lumière sur certaines conséquences liées au fonctionnement individuel et donc d'établir les profils susceptibles de manifester un fonctionnement sous-optimal. Cela a permis dans un premier temps d'élargir le spectre des connaissances entourant le BEF, mais aussi d'établir un socle sur lequel pourrait s'appuyer le développement d'interventions mieux ciblées. La première étude a permis de constater que le facteur global de BEF permettait d'expliquer une part importante de la variance au niveau de la détresse psychologique, du stress perçu et de la satisfaction de vie. Ces résultats vont globalement dans le même sens que ceux des études précédentes, à l'exception que dans ce cas-ci, le recours à un modèle bifactoriel a permis de nuancer cette association, c'est-à-dire que c'est davantage le facteur global qui joue un rôle prédictif et non les facteurs spécifiques. Effectivement, les facteurs spécifiques ne jouaient pas un rôle significatif hormis le facteur *Situation Financière Future* qui était, contre-intuitivement, positivement associé à la détresse psychologique. Ensuite, dans la deuxième étude, le portrait a été raffiné en associant les profils aux conséquences évaluées lors de la première étude. Les profils affichant les niveaux de stress et de détresse psychologique les plus élevés (ex aequo) sont les profils 1 et 4. Le profil 1 est également celui ayant le plus faible

niveau de satisfaction de vie. De telles nuances n'avaient pu être dégagées auparavant, puisque les études antérieures reposaient sur des analyses centrées sur les variables. Tant les résultats de l'article 1 que ceux de l'article 2 convergent vers l'idée que le BEF, qui est un état contextualisé, joue un rôle appréciable dans le fonctionnement psychologique plus vaste de l'individu, s'appliquant à l'ensemble des sphères de sa vie. La vie financière n'est donc pas à négliger dans le bien-être et mal-être général des gens.

Implications pratiques

Les résultats de la présente thèse ont des implications pratiques qui peuvent varier en fonction des acteurs. Les prochains paragraphes présentent certaines de ces implications pour (1) les chercheurs; (2) les intervenants du milieu de l'éducation; (3) les praticiens; ainsi que (4) les instances gouvernementales et organismes communautaires.

Chercheurs

Les résultats ont dévoilé que les connaissances financières mesurées objectivement n'avaient aucun pouvoir prédictif quant à l'appartenance à un profil de BEF plutôt qu'un autre. D'un autre côté, l'efficacité financière permettait de prédire l'appartenance au profil 3 par rapport à tous les autres profils. Pour qu'une personne soit en mesure d'avoir une efficacité financière perçue élevée, il n'est pas nuisible d'avoir d'abord des connaissances financières, mais les résultats du deuxième article suggèrent que les démarches visant à augmenter le niveau de littératie financière ne doivent pas s'arrêter à la simple transmission de connaissances. Puisque pour favoriser le BEF, l'accent doit être

mis sur l'efficacité financière perçue, il est pertinent de se pencher sur des études qui ont examiné les moyens de l'améliorer. Bandura (1997) indique que l'expérience active de maitrise est la principale source d'information de l'autoefficacité, soit une composante de l'efficacité financière perçue. À notre connaissance, une seule étude (Hoffmann & Plotkina, 2021), contrairement aux nombreuses études qui se sont penchées sur les interventions visant à augmenter les économies, a soutenu l'association positive entre l'expérience active de maitrise et le BEF. D'autres études devraient être effectuées par rapport aux façons efficaces de valoriser le sentiment d'efficacité financière perçue. L'évaluation d'interventions inspirées d'autres domaines (p. ex., éducation, sport) mais adaptées aux finances personnelles permettrait d'éclairer les chercheurs intéressés par les études d'intervention, de même que les utilisateurs des connaissances. Une attention particulière devrait néanmoins être portée aux profils de BEF et à certains traits (p. ex., névrosisme) et compétences-attitudes-motivations (p. ex., efficacité financière perçue), puisqu'il est raisonnable de croire que le succès des interventions variera d'une personne à l'autre et qu'un bon arrimage profil-intervention est souhaitable.

Milieu de l'éducation financière et familles auprès d'enfants

Devant l'absence du rôle significatif que jouent les connaissances financières dans la prédiction du profil de BEF, il est clair qu'il est nécessaire de ne pas uniquement miser sur les connaissances financières, mais aussi et surtout sur les façons d'accroitre le sentiment d'efficacité financière perçue. Compte tenu que la présence d'économies était aussi une variable permettant de prédire l'appartenance au profil 3 par rapport à tous les

autres profils, les enseignants et parents pourraient, par exemple, transmettre les connaissances de base par rapport aux différents véhicules d'épargne (p. ex., REER, CELI) et façons de faire des économies (p. ex., déduction sur salaire, réduction des dépenses). Il serait ensuite important d'inciter (possiblement avec des suivis) les étudiants/élèves à entreprendre des actions (possiblement avec du soutien) visant à augmenter leurs économies. Ici, la suggestion a été faite à l'effet que les étudiants/élèves entreprennent des actions, puisqu'il s'agit de la source d'informations la plus influente selon Bandura (1997), mais il est aussi envisageable que les enfants apprennent en observant comment un membre de leur famille s'y prend pour accroitre ses économies. Cependant, il ne faut pas perdre de vue que les questions financières peuvent être un sujet tabou pour plusieurs (Alsemgeest, 2015; Romo, 2011) (peut-être davantage entre membres d'une même famille que dans un environnement académique) et donc représenter un obstacle à surmonter lorsque vient le temps d'aborder le sujet avec des membres de la famille. Malgré la présence de ce tabou, l'habitude de discuter de questions financières au sein de la famille, dans un climat propice à l'apprentissage (Ryan & Deci, 2017), devrait être priorisée. En effet, plusieurs études soutiennent que parmi les diverses sources de socialisation (c.-à-d., école, travail, famille, amis), la socialisation financière avec la famille est la plus déterminante sur le niveau de littératie financière (Grohmann et al., 2015).

Praticiens

Les conseillers financiers soucieux d'augmenter le BEF de leurs clients ne doivent pas négliger le rôle que joue une variable sur laquelle ils peuvent exercer une influence

appréciable : la présence d'économies. Il va de soi que les conseillers financiers guident leurs clients par rapport aux meilleures stratégies d'épargne, mais cela est souvent fait dans une optique de maximisation de l'épargne d'un point de vue purement quantitatif. L'argument que les économies jouent également un rôle dans le BEF subjectif peut aussi être utilisé pour inciter les gens à recourir à leurs services et bien sûr, augmenter le revenu des conseillers. Certains acteurs du milieu financier ont assurément décelé que l'association positive entre l'épargne et le BEF pouvait leur être bénéfique, puisqu'ils mettent clairement cette association en vue, voire au premier plan, sur leur site web (p. ex., Banque Scotia, 2022; CapitalOne, 2023; CIBC, 2023). Bien que les personnes ayant un faible niveau de littératie financière soient moins portées à consulter un conseiller financier (Calcagno & Monticone, 2015), compte tenu du rôle occupé par l'efficacité financière perçue, les conseillers devraient y porter une attention particulière et tenter de l'augmenter auprès de leurs clients en les impliquant davantage dans la gestion de leurs finances. Aux yeux des conseillers, le fait d'impliquer davantage leurs clients dans la gestion de leurs finances peut potentiellement être perçu comme une menace, puisque cela pourrait avoir un effet négatif sur leurs revenus. Ceux-ci devraient donc potentiellement réévaluer leur modèle d'affaires (p. ex., tarif fixe annuel, pourcentage de commission sur actifs sous gestion) s'ils souhaitent conserver leurs revenus. D'un autre côté, cela pourrait être perçu comme une marque de confiance envers les clients, ce qui pourrait les inviter à investir davantage et peut-être même référer leur conseiller à des personnes de leur entourage, ce qui, en bout de piste, pourrait augmenter le revenu des conseillers.

Qu'il s'agisse d'études empiriques ou théoriques, le volume d'écrits scientifiques portant sur le rôle occupé par les psychologues dans le traitement des problèmes liés à des questions financières est faible (Sinclair & Cheung, 2016). Les questions financières sont peu abordées dans les formations offertes aux psychologues et, par conséquent, peu abordées en pratique par ces derniers (Lowrance, 2011; Sinclair & Cheung, 2016; Trachtman, 1999). Pourtant, les psychologues peuvent jouer un rôle appréciable, par rapport à deux des déterminants du BEF, soit l'efficacité financière perçue et le névrosisme. En ce qui concerne plus particulièrement le névrosisme, plusieurs études ont démontré l'efficacité d'interventions pharmacologiques (Barlow et al., 2014), mais les psychologues peuvent aussi venir en aide aux individus, par exemple en les outillant à pratiquer la pleine conscience, laquelle est fortement associée au névrosisme (Giluk, 2009), ce qui pourrait en limiter l'expression.

Compte tenu de la place qu'occupe le BEF par rapport à divers indicateurs de fonctionnement général, les employeurs (via leurs programmes d'aide aux employés ou du soutien offert directement dans le milieu de travail) devraient faire appel à des praticiens (psychologues, conseillers financiers) afin de soutenir les employés dans leurs démarches visant à améliorer leur BEF. Les employeurs croient de plus en plus qu'ils ont un rôle à jouer dans la BEF de leurs employés et une part importante des employés sont d'avis que leur employeur devrait les soutenir par rapport à leur BEF (Mercer, 2023; Metlife, 2022; Sun Life Financial, 2020). Des programmes visant à améliorer la santé financière des employés existent déjà et connaissent une popularité grandissante

(Metlife, 2022). Les résultats de la présente thèse peuvent fournir des pistes pertinentes aux employeurs quant aux variables à privilégier afin de favoriser le BEF de leurs employés. Bien sûr, cela devrait avoir un effet positif sur l'engagement et la rétention du personnel.

Instances gouvernementales et organismes communautaires

Étant donné l'association entre le BEF et la santé psychologique (satisfaction de vie, stress perçu, détresse psychologique), le BEF est un enjeu à ne pas négliger. Plusieurs pays (p. ex., Australie, Canada, États-Unis, Grande-Bretagne) s'intéressent au BEF, que ce soit via une agence ou une autre instance gouvernementale. Ces agences partagent notamment des rapports de recherche, des concepts, des conseils qui visent à soutenir les gens désireux d'augmenter leur BEF. Cependant, il est difficile de savoir si, concrètement, ces démarches exercent une influence sur le BEF des individus. L'utilisation d'une mesure bien validée, comme la MSFWBS optimisée, peut certainement aider les agences à mesurer avec plus de justesse l'impact de leurs initiatives.

Par ailleurs, dans une optique où les agences et organismes communautaires souhaitent venir en aide aux populations plus vulnérables, il est clair que les efforts devraient d'abord être mis sur les personnes présentant un profil de BEF plus problématique (1 et 4). Des démarches spécifiques à ces populations devraient être entreprises afin de leur venir en aide. Bien que dans l'ensemble, l'absence d'économies soit un prédicteur d'appartenance à ces profils, leur configuration différente fait en sorte

que les interventions optimales risquent de ne pas être les mêmes. Un défi de taille devra aussi être surmonté étant donné que les personnes pouvant bénéficier le plus d'interventions sont rarement celles qui sollicitent de l'aide (Meier & Sprenger, 2007). Ce défi pourrait être particulièrement difficile pour les personnes du profil 4, puisqu'il est possible que ces personnes soient trop sûres d'elles et matérialistes, ce qui diminuerait encore plus la probabilité qu'elles demandent de l'aide (Lusardi & Mitchell, 2007).

Limites des études réalisées et recherches futures

Les résultats obtenus sont difficilement généralisables, à la population québécoise dans ce cas-ci, étant donné que les échantillons n'étaient pas représentatifs de la population générale, particulièrement au niveau de la langue, du niveau de scolarité, du revenu et du sexe. Par rapport à la moyenne québécoise, les échantillons comportaient plus de francophones, un niveau de scolarité plus élevé, un revenu plus élevé et une proportion plus élevée de femmes. De plus, le caractère volontaire de la participation aux études fait en sorte que les personnes se sentant davantage interpellées par les enjeux de finances personnelles étaient plus susceptibles d'y participer. Il serait souhaitable de faire d'autres études qui permettraient de déterminer si les résultats peuvent être généralisés en sélectionnant des échantillons représentatifs de la population et dans différents pays.

La stabilité temporelle de la mesure optimisée demeure inconnue, puisque dans la présente thèse, le BEF a été mesuré à un seul moment par les mêmes individus. Il serait donc souhaitable de faire des recherches où les mêmes répondants seraient sollicités à plus

d'une occasion. Cela permettrait en outre d'examiner si les changements qui s'opèrent sur le plan des déterminants, comme l'efficacité financière perçue ou la présence d'économies, permettent de prédire des changements sur le plan du BEF à travers le temps. Par ailleurs, comme il s'agit de la première étude s'intéressant aux profils de BEF, il serait souhaitable d'examiner la stabilité temporelle des profils observés.

L'adoption d'un budget a été mesurée grâce à une échelle comprenant plusieurs items, spécifiquement développée pour les études de cette thèse. Un seuil à partir duquel un individu était réputé utiliser un budget a été établi. Cela était nécessaire en raison du manque de définition claire de ce que représente un budget et de la diversité des pratiques des répondants. Il serait souhaitable que cet aspect soit davantage clarifié pour augmenter la comparabilité d'éventuelles recherches. Aussi, puisque les pratiques budgétaires ont été évaluées à partir de plusieurs items, il est possible de connaitre précisément les pratiques des répondants. Il pourrait être intéressant d'évaluer s'il existe des associations optimales entre certaines pratiques budgétaires et les caractéristiques des individus ou même leur profil de BEF. Il est possible que les pratiques budgétaires (p. ex., fréquence de suivi, nombre de comptes, moyen utilisé) d'un individu puissent être mieux adaptées à ses besoins, ce qui pourrait éventuellement contribuer à augmenter son BEF.

Différents profils de BEF ont été identifiés et ceux-ci ont été associés à diverses conséquences. Il a donc été possible de déterminer l'apport relatif des profils par rapport aux autres. Cependant, il n'est pas encore clair à partir de quel point une situation devient

réellement problématique, s'il existe en quelque sorte un « seuil clinique » à partir duquel des interventions deviendraient urgentes. Des recherches devraient donc être effectuées sur des indicateurs cliniques de problèmes de santé (p. ex., dépression) afin de clarifier cet aspect.

La présence d'économies a été questionnée à partir d'une question dichotomique. Évidemment, le portrait financier d'une personne ne se résume pas à la présence ou non d'économies et il serait souhaitable de déterminer si d'autres variables financières objectives (p. ex., l'endettement) exercent une influence. Si deux personnes ont des économies, mais qu'une seule a aussi des dettes, il est possible que cela fasse en sorte que leurs situations ne soient pas véritablement comparables. Il serait donc souhaitable d'intégrer davantage de variables objectives. Cependant, une réflexion s'impose quant à la façon optimale d'évaluer ces informations. En effet, les gens ne sont pas toujours au courant de tous les fins détails de leur situation financière (ce qu'elles possèdent et doivent) et si des questions sur les montants spécifiques sont demandées, sur quelle base les comparer, puisque par exemple, la situation d'un jeune travailleur ayant des économies de 10 000 $ et un salaire annuel de 80 000 $ ne peut pas véritablement être comparée à une personne retraitée ayant 800 000 $ d'économies sans salaire.

L'association positive entre le facteur spécifique *Situation Financière Future* et le niveau de stress et de détresse psychologique était particulièrement étonnante. Cela suggère qu'un individu qui a un niveau de confiance vis-à-vis de sa situation future

supérieur à son bien-être financier global a tendance à manifester un niveau appréciable de stress et de détresse psychologique. D'autres études devraient tenter de répliquer ces résultats et si cette association devait se reproduire, d'explorer les raisons qui l'expliquent.

La majorité des items compris dans la MSFWBS sont de nature à tester des cognitions plutôt que des affects. Les items questionnant des affects sont tous compris dans le même facteur, soit le facteur *État Général de BEF*. Il aurait lieu de creuser davantage la question de la place occupée par les cognitions et les affects dans la détermination d'un niveau de BEF.

Les études de la présente thèse reposent sur un nombre limité de déterminants et de conséquences; d'autres études devraient enrichir cette compréhension, en tentant d'élargir le réseau nomologique du BEF, soit de mieux comprendre l'apport d'autres facteurs individuels (p. ex., optimisme, *future self-continuity*) et contextuels (p. ex., résilience financière, type de consommateur [avare vs dépensier]) dans la détermination des profils et des conséquences dans les diverses sphères de vie des individus (p. ex., satisfaction conjugale, fonctionnement au travail).

Conclusion

La présente thèse permet d'approfondir les connaissances sur la notion de bien-être financier, en se focalisant sur quatre principaux aspects : la conceptualisation et l'opérationnalisation du construit, ses déterminants et ses conséquences liées au fonctionnement individuel. Dans un premier temps, la thèse a proposé une définition visant à mieux circonscrire le construit. Ensuite, un examen de l'instrument qui semblait le plus pertinent (MSFWBS) a été effectué afin d'aboutir à une version optimisée de l'échelle existante. Afin de valider ses qualités psychométriques, différents modèles statistiques ont été comparés et il en ressort qu'un modèle ESEM bifactoriel était celui à privilégier. Les qualités psychométriques de cette échelle étaient certes excellentes, mais cela démontre surtout que le BEF est un construit global reflétant les éléments en commun parmi cinq dimensions distinctes, soit la *Suffisance des Revenus*, la *Comparaison avec les Pairs*, l'*État général de BEF*, la *Gestion de ses finances personnelles* et la *Situation financière future*. Cette échelle a initialement été conçue pour les personnes âgées entre 18 et 29 ans, mais elle conserve également d'excellentes qualités psychométriques auprès des adultes âgés de plus de 29 ans. Afin de mesurer adéquatement le BEF et aspirer à façonner un domaine de recherche moins fragmenté, il serait souhaitable de miser sur cette échelle dans les futures recherches.

La thèse a permis de dresser un portrait clair des profils de BEF. Aucune autre étude n'a réalisé de telles analyses, ayant plutôt recours à des analyses centrées sur les

variables. Les analyses ont révélé cinq profils de BEF ayant des configurations qui diffèrent passablement, ce qui justifie d'autant plus le recours à des analyses centrées sur la personne. La vaste majorité (presque 80 %) des répondants se retrouvent dans le seul profil affichant un niveau global de BEF supérieur à la moyenne.

L'analyse des variables permettant de prédire l'appartenance aux profils a dévoilé que le sentiment d'efficacité financière perçue, la présence d'économies et un faible névrosisme jouaient un rôle très important, puisqu'elles permettent de prédire l'appartenance au seul profil affichant un niveau de BEF global plus élevé que la moyenne par rapport à tous les autres profils, contrairement aux connaissances financières objectives qui n'ont aucun pouvoir prédictif. Il faut aussi souligner que les profils étaient les mêmes selon qu'une personne utilise ou non un budget et que seulement la taille des profils variait, mais que dans les deux groupes (utilisant un budget ou non), la vaste majorité des répondants se retrouvaient dans le même profil, soit le profil 3.

Le BEF joue un rôle de taille dans la prédiction du niveau de stress perçu, de la détresse psychologique et de la satisfaction de vie et il s'avère que les personnes associées aux profils 1 et 4 semblent particulièrement vulnérables quant aux variables étudiées. Tout en palliant certaines lacunes identifiées dans les écrits scientifiques, les travaux réalisés dans cette thèse ont contribué à l'avancement des connaissances, tout en mobilisant diverses implications théoriques et pratiques. Ils ouvrent aussi à de nouvelles questions de recherche visant à enrichir ce secteur de recherche émergent.

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Appendice A

Item Labels for the Multi-Dimensional Subjective Financial Well-Being Scale

Item Labels for the Multi-Dimensional Subjective Financial Well-Being Scale

Item # Original (Sorgente & Lanz, 2019)	Item # Final (Aubrey et al., 2022)	Label
HM1	HM1	*Sometimes I miss funds to buy things I need*
HM2	HM2	*I cannot do some things with my friends, because I do not have the money to do them*
HM3	HM3	*Sometimes I do not have the money to buy what I need*
PC1	PC1	My financial situation is better than my peers' one
PC2	PC2	*My financial situation is worse than my friends' one*
PC3	PC3	*My peers have usually more money available for free time activities than me*
GS1	GS1	I have enough money to pursue my passions
GS2	GS2	*I have less money than I need*
GS3	GS3	I cannot complain about my financial situation
GS4	GS4	I am satisfied with how my life is going from a financial point of view
GS5	GS5	*I am constantly stressed because of my financial situation*
GS6	GS6	I am calm about my financial situation
GS7	HM4	I have enough funds for everything I need
GS8	GS7	I am satisfied with my present financial situation
GS9	GS8	I am comfortable with my current financial situation
GS10	GS9	I have enough funds to enjoy my life
MM1	MM1	I am satisfied with the way I manage my money
MM2	MM2	I am satisfied with the way I spend my money
MM3	MM3	I feel I can handle my financial situation
MM4	MM4	I am satisfied with the way I manage my financial situation
FF1	FF1	In the near future, I will have enough money to carry my plans out
FF2	FF2	I expect to be very satisfied with the financial situation that I will achieve thanks to my commitment
FF3	FF3	The study/work path I have undertaken will allow me to achieve a satisfying financial situation
FF4	MM5	I am satisfied with the way I am preparing myself to reach my long-term goals (for example. to buy a car)
FF5	FF4	I'm on the right track to meet my financial goals

Note. HM: Having money; PC: Peer comparisons; GS: General subjective financial well-being; MM: Money management; FF: Financial future; Italics: Reversed-score items.

Appendice B

Matériel supplémentaire de l'article 1

Online Supplements for:

Financial Well-Being:

Capturing an Elusive Construct with an Optimized Measure

Authors' note:

These online technical appendices are to be posted on the journal website and hot-linked to the manuscript. If the journal does not offer this possibility, these materials can alternatively be posted on one of our personal websites (we will adjust the in-text reference upon acceptance).

We would also be happy to have some of these materials brought back into the main manuscript, or included as published appendices if you deem it useful. We developed these materials to provide additional technical information and to keep the main manuscript from becoming needlessly long.

Table S1

Fit of the Alternative Measurement Models Estimated for the PFWBS

	χ2	df	CFI	TLI	RMSEA	RMSEA 90% CI
CFA	204.623*	34	.890	.855	.105	.092; .119
Bifactor-CFA	57.725*	25	.979	.962	.054	.036; .072
ESEM	130.248*	26	.933	.884	.094	.078; .110
Bifactor-ESEM	43.443*	18	.984	.959	.056	.035; .077

Note. * $p < .01$; χ^2: robust chi-square test of exact fit; *df*: degrees of freedom; CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; RMSEA: Root Mean Square Error of Approximation; 90% CI: 90% confidence interval; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling.

Table S2

Standardized Parameter Estimates of the Alternative Measurement Models Estimated for the PFWBS

	CFA		B-CFA			ESEM			B-ESEM			
	λ	δ	G-λ	S-λ	δ	Future-λ	Current-λ	δ	G-λ	Future-λ	Current-λ	δ
Future1	.633	.599	.681	*.031*	.536	**.511**	-.200	.580	**.658**	***.002***	-.121	.552
Future2	.699	.511	.749	*.084*	.432	**.661**	*-.061*	.513	**.752**	***-.010***	*.015*	.434
Future3	.642	.588	.775	*-.096*	.390	**.607**	*-.058*	.587	**.807**	***-.287***	.100	.257
Future4	.901	.188	.761	.644	.006	**.933**	*.052*	.183	**.822**	**.473**	*.013*	.100
Future5	.889	.209	.754	.401	.271	**.904**	*.020*	.203	**.797**	**.373**	*-.029*	.225
ω	.871			.491		.864				.455		
Current1	.690	.525	-.558	.404	.525	-.241	**.523**	.522	**-.542**	*-.054*	**.419**	.527
Current2	.683	.534	-.602	.338	.524	-.262	**.488**	.545	**-.585**	*.058*	**.358**	.526
Current3	.689	.525	-.291	.731	.382	.222	**.875**	.410	**-.297**	*-.010*	**.714**	.402
Current4	.804	.354	-.556	.561	.375	*-.076*	**.746**	.372	**-.551**	*.045*	**.571**	.368
Current5	.742	.449	-.379	.701	.364	.104	**.839**	.386	**-.373**	*-.072*	**.706**	.357
ω	.845		.907	.775			.844		.911		.778	
Correlation	-.624					-.579						

Note: λ: Standardized factor loadings; δ: Standardized item uniquenesses; G-: Global factor from a bifactor measurement model; S-: Specific factors from a bifactor measurement model; ω: Omega coefficient of composite reliability; CFA: Confirmatory factor analysis; B-CFA: Bifactor-CFA; ESEM: Exploratory Structural Equation Modeling B-ESEM: Bifactor-ESEM; Main ESEM (target) factor loadings are bolded. Non statistically significant parameters are marked in italics ($p > .05$).

Table S3

Standardized Parameter Estimates from the Measurement Model for the Convergent Measures

	PFWBS			FAS			CFPB (Reduced)		CFPB (Complete)	
Item	G-Factor-λ	Future S-λ	Current S-λ	δ	λ	δ	λ	δ	λ	δ
Item 1	**.675**	***.004***	-.148	.523	.610	.606			.668	.695
Item 2	**.737**	***.026***	*.006*	.457	.748	.431			-.685	.676
Item 3	**.809**	***-.275***	*.082*	.263	.775	.353			-.832	.807
Item 4	**.812**	**.479**	*.026*	.111	.724	.265			-.536	.703
Item 5	**.793**	**.390**	*.010*	.220	.678	.540	.768	.410	.999	.688
Item 6	**-.552**	*-.050*	**.375**	.529	.720	.293	.809	.345	.843	.381
Item 7	**-.589**	*.041*	**.373**	.506	.825	.302	-.581	.621	-.677	.917
Item 8	**-.297**	*.016*	**.615**	.413	.460	.782	-.738	.454	-.873	.661
Item 9	**-.552**	*.038*	**.568**	.345			.695	.517	.840	.713
Item 10	**-.366**	*-.052*	**.578**	.359			-.659	.560	-.843	.974
ω	.911	.467	.745		.896		.861		.894	
Correlations	1	2	3	4	5					
1. PFWBS (G-factor)	**--**									
2. PFWBS (S-Future)	0	--								
3. PFWBS (S-Current)	0	0	**--**							
4. FAS	-.704	*-.010*	.291	--						
5. CFPB	.836	*.026*	-.448	-.825	--					

Note. PFWBS: Perceived Financial Well-Being Scale; FAS: Financial Anxiety Scale; CFPB: Consumer Financial Protection Bureau; λ: Standardized factor loadings; δ: Standardized item uniquenesses; G-: Global factor from a bifactor measurement model; S-: Specific factors from a bifactor measurement model; ω: Omega coefficient of composite reliability; Main ESEM (target) factor loadings are bolded. Non statistically significant parameters are marked in italics ($p > .05$).

Table S4

Standardized Parameter Estimates from the Measurement Model for the Criterion Measures

	Perceived Stress		Psychological Distress		Satisfaction with Life	
Item	λ	δ	λ	δ	λ	δ
Item 1	.717	.487	.786	.382	.826	.318
Item 2	.699	.511	.894	.201	.798	.363
Item 3	.741	.451	.597	.643	.929	.138
Item 4	-.310	.582	.825	.319	.839	.295
Item 5	-.451	.434	.819	.329	.720	.482
Item 6	-.559	.353	.752	.434		
Item 7	-.664	.402				
Item 8	.532	.717				
Item 9	-.427	.606				
Item 10	-.685	.413				
Item 11	.572	.673				
Item 12	.354	.875				
Item 13	-.351	.812				
Item 14	.750	.438				
ω	.887		.904		.914	
Correlations	1.	2.	3.			
1. Perceived Stress	--					
2. Psychological Distress	.825	--				
3. Satisfaction with Life	-.502	-.497	--			

Note. λ: Standardized factor loadings; δ: Standardized item uniquenesses; ω: Omega coefficient of composite reliability; All coefficients are statistically significant ($p \leq .05$).

Table S5

Fit of the Alternative Measurement Models Estimated for the MSFWBS

	χ2	df	CFI	TLI	RMSEA	RMSEA 90% CI
CFA	740.554*	258	.925	.912	.064	.059; .070
Bifactor-CFA	581.006*	243	.947	.935	.055	.050; .061
ESEM	460.046*	178	.956	.926	.059	.052; .066
Bifactor-ESEM	327.082*	158	.974	.950	.049	.041; .056

Note. * $p < .01$; χ^2: robust chi-square test of exact fit; *df*: degrees of freedom; CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; RMSEA: Root Mean Square Error of Approximation; 90% CI: 90% confidence interval; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling.

Table S6

Factor Correlations for the CFA and ESEM Measurement Models Estimated for the Revised MSFWBS

	CFA				ESEM			
	HM	PC	GS	MM	HM	PC	GS	MM
PC	-.797**				-.531**			
GS	-.819**	.849**			-.693**	.660**		
MM	-.712**	.741**	.886**		-.499**	.384	.664	
FF	-.704**	.743**	.829**	.848**	-.580**	.456	.654**	.615**

Note. * $p \leq .05$; ** $p \leq .01$; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial future.

Table S7

Standardized Parameter Estimates from the Alternative Measurement Models Models Estimated for the Revised MSFWBS

	CFA		B-CFA			ESEM						B-ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
HM1	.826	.274	-.648	.481	.222	**.688**	*-.013*	*-.123*	*.041*	*-.049*	.230	**-.665**	**.437**	*-.009*	*.015*	*.063*	*-.018*	.228
HM2	.674	.299	-.660	*.063*	.268	***.139***	*-.275*	*-.475*	.140	*-.025*	.287	**-.697**	***.030***	*.051*	*.075*	.190	*.073*	.276
HM3	.850	.271	-.660	.553	.207	**.854**	*.001*	*.007*	*-.086*	*.053*	.184	**-.670**	**.546**	*.014*	*-.001*	*-.019*	*.028*	.184
GS7	-.741	.450	.656	-.338	.455	**-.546**	*.095*	*.026*	*.050*	.146	.440	**.654**	**-.342**	*-.091*	*.031*	*.002*	.088	.438
PC1	.880	.225	.755	-.543	.135	*-.219*	***.559***	*-.095*	*.231*	*.133*	.285	**.755**	*-.085*	**-.379**	*-.074*	*.064*	*.033*	.268
PC2	-.731	.410	-.633	.306	.406	*.238*	***-.467***	*-.021*	*-.046*	*-.092*	.419	**-.641**	*.108*	**.350**	*-.001*	*.057*	*-.007*	.385
PC3	-.700	.198	-.640	.260	.285	*-.038*	**-.649**	*-.262*	*.066*	*-.023*	.202	**-.681**	*-.098*	**.309**	.135	.188	.099	.216
GS1	.775	.400	.790	*.246*	.315	*-.079*	.381	***.357***	*.080*	*.058*	.334	**.815**	*.030*	*-.074*	***-.191***	*-.052*	*-.056*	.288
GS2	-.694	.470	-.692	*.011*	.450	.229	*-.151*	**-.432**	*-.028*	*.029*	.442	**-.704**	*.099*	*.049*	***-.041***	*.050*	*.078*	.443
GS3	.800	.360	.799	*.048*	.360	-.191	*.127*	**.491**	*.079*	*.034*	.351	**.802**	*-.066*	*-.002*	***.023***	*-.014*	*-.040*	.350
GS4	.852	.274	.852	*.005*	.274	*.082*	*.161*	**.591**	*.135*	*.162*	.257	**.850**	.118	*-.015*	***.055***	*.029*	*.034*	.258
GS5	-.658	.550	-.638	.367	.399	*.149*	*.247*	***-.731***	*-.049*	*.034*	.431	**-.636**	*.068*	*-.137*	***-.315***	*-.017*	*.055*	.405
GS6	.830	.312	.830	-.296	.224	*.006*	*-.079*	***.581***	*.276*	*.144*	.283	**.794**	*.047*	*.019*	**.284**	.169	*.062*	.253
GS8	.890	.209	.883	*-.037*	.218	*-.103*	*.102*	***.566***	*.175*	*.064*	.218	**.873**	*-.007*	*-.031*	***.127***	*.056*	*-.016*	.218
GS9	.872	.240	.866	*-.147*	.228	*.003*	*-.069*	***.810***	*.102*	*.083*	.202	**.859**	*.057*	*.071*	**.254**	*.018*	*-.009*	.188
GS10	.831	.310	.837	*.117*	.286	*-.080*	*.167*	**.584**	*.028*	*.095*	.280	**.853**	*.013*	*.022*	***-.011***	*-.068*	*-.016*	.266
MM1	.859	.262	.733	.498	.214	*.009*	*.051*	*.135*	**.772**	*-.018*	.234	**.725**	*.070*	*.098*	*-.076*	**.528**	*-.014*	.174
MM2	.802	.357	.741	.324	.346	*-.036*	*.012*	*.344*	**.522**	*-.026*	.353	**.749**	*.039*	.162	*-.072*	**.325**	*-.045*	.298
MM3	.844	.288	.781	.287	.308	-.197	*-.048*	*.110*	**.501**	.228	.262	**.746**	*-.110*	*-.021*	.170	**.348**	*.172*	.251
MM4	.914	.165	.799	.460	.150	*-.028*	*.012*	*.197*	**.701**	*.064*	.170	**.782**	*.029*	*.056*	*.050*	**.453**	*.051*	.174
FF4	.849	.278	.779	.312	.297	*-.055*	*.135*	*.058*	**.629**	*.126*	.262	**.740**	*.005*	-.142	*.140*	**.404**	*.091*	.242
FF1	.791	.374	.667	.362	.424	*.042*	.170	*-.016*	*.139*	**.631**	.391	**.651**	*.041*	*-.102*	*-.015*	.109	**.400**	.392
FF2	.703	.506	.546	.691	.225	*.018*	*-.095*	*-.034*	*-.076*	**.957**	.286	**.544**	*-.017*	*.066*	*-.002*	*.037*	**.645**	.282
FF3	.623	.612	.536	.496	.466	*-.058*	*-.065*	*.145*	-.248	**.789**	.427	**.554**	*-.051*	*.106*	*-.057*	-.118	**.513**	.398
FF5	.871	.241	.766	.234	.358	*-.029*	*.086*	*.011*	.446	**.421**	.279	**.724**	*.001*	*-.124*	*.137*	.311	**.291**	.260

Note: λ: Standardized factor loading; δ: Standardized item uniquenesses; G-: Global factor from a bifactor measurement model; S-: Specific factors from a bifactor measurement model; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial Future; Item labels are reported in Appendix; Main ESEM (target) factor loadings are bolded; Non statistically significant parameters are marked in italics ($p > .05$).

Table S8

Composite Reliability (ω) Estimates from the Alternative Measurement Models Models Estimated for the Revised MSFWBS

	CFA	Bifactor-CFA	ESEM	Bifactor-ESEM
G-Factor		.978		.979
HM	.881	.641	.813	.620
PC	.865	.598	.756	.554
GS	.943	.371	.904	.388
MM	.931	.729	.884	.788
FF	.837	.683	.850	.720

Note. CFA: Confirmatory factor analysis; ESEM: Exploratory Structural Equation Modeling; HM: Having money; PC: Peer Comparison; GS: General subjective financial well-being; MM: Money Management; FF: Financial Future; G-factor: Global factor from a bifactor measurement model.

Appendice C

Matériel supplémentaire de l'article 2

Online Supplemental Materials for:

A Person-Centered Perspective on Financial Well-Being

Authors' note:

These online technical appendices are to be posted on the journal website and hot-linked to the manuscript. If the journal does not offer this possibility, these materials can alternatively be posted on one of our personal websites (we will adjust the in-text reference upon acceptance).

We would also be happy to have some of these materials brought back into the main manuscript if you deem it useful. We developed these materials mostly to provide additional technical information and to keep the main manuscript from becoming needlessly long.

Preliminary Analyses and Results

Model Specification and Estimation

Financial Well-Being (FWB). The factor structure of participants' responses to the FWB questionnaire was investigated by contrasting a confirmatory factor analysis (CFA), bifactor-CFA, exploratory structural equation modeling (ESEM) and bifactor-ESEM representations following the same sequence used by Aubrey et al. (2022) based on recommendations by Morin et al. (2016, 2017, 2020). A CFA solution (where each item was only allowed to define its a priori factor and factors where allowed to be correlated) was first compared with an ESEM (each factor was defined as in the CFA solution while allowing all cross loadings to be freely estimated with a target value of 0 using target rotation procedures; Browne, 2001) to assess the presence of construct-relevant psychometric multidimensionality due to the assessment of conceptually related constructs. The retained solution was then contrasted with its bifactor counterpart, in which a global factor (G-factor) defined by all FWB items was added to the model, and all factors were set to be orthogonal (to achieve a clean disaggregation of the variance uniquely associated with each FWB facet beyond the G-Factor. For bifactor-ESEM, we relied on a bifactor orthogonal target rotation procedure (Reise et al., 2011), again targeting all cross-loadings among the S-factors to be as close to 0 as possible. One orthogonal method factor was added to the models to control for the methodological artifact related to the negative wording of seven of the items (Marsh et al., 2010).

These analyses relied on Mplus 8.10's (Muthén & Muthén, 2023) maximum likelihood estimator robust to non-normality (MLR; Rhemtulla et al., 2012). There were no missing data. Given the known oversensitivity of the χ^2 test of exact fit to sample size, minor misspecifications, and even omitted variables (e.g., Marsh et al., 2005), this indicator will be reported, but not interpreted. Model fit will rather be assessed using the *Comparative Fit Index* (CFI), the *Tucker-Lewis Index* (TLI), and *Root Mean Square Error of Approximation* (RMSEA) with its 90% confidence interval (Hu & Bentler, 1999; Marsh et al., 2005). Values greater than .90 for the CFI and TLI are considered acceptable, but these values should ideally be greater than .95. Likewise, RMSEA values lower than .08 are acceptable but should ideally be lower than .06.

The measurement invariance of the optimal solution across subsamples of participants relying, or not, on financial budgeting was assessed in the following sequence (Millsap, 2011): *Configural* (same model with no additional constraint), *weak* (equal loadings), *strong* (equal loadings and intercepts), *strict* (equal loadings, intercepts and uniquenesses), latent variance-covariance (equal loadings, intercepts, uniquenesses, and latent variances and covariances), and latent mean invariance (equal loadings, intercepts, uniquenesses, latent variances and covariances, and latent means). Model comparisons relied on an examination of changes in CFI, TLI and RMSEA between each model and the previous one. In these comparisons, a decrease in the value of the CFI or TLI lower or equal to .010 or an increase in the value of the RMSEA higher or equal to .015 for the RMSEA was taken as supporting the invariance hypothesis (Chen, 2007; Cheung & Rensvold, 2002;

Marsh et al., 2005). The factor scores from the most invariant model were then used for subsequent analyses.

Predictors and Outcomes. A 6-factor CFA measurement model was estimated, including one factor (defined solely by its a priori indicators) for each predictor (one factor each for neuroticism, perceived financial efficacy, and financial knowledge) and outcomes (one factor each life satisfaction, psychological distress, and perceived stress). This model also included one *a priori* orthogonal method factor to account for the methodological artifact related to the negative wording of two neuroticism and seven perceived stress items (Marsh et al., 2010). This model was estimated using the robust weighted least square estimator with mean and variance adjusted statistics (WLSMV), which was required to account for the ordinal nature and asymmetric response thresholds of the items used to assess these constructs (including the binary scores used for the financial knowledge items) (Finney & DiStefano, 2013). These analyses relied on the same model fit assessment procedures and measurement invariance sequence as those used for FWB, with one exception. More precisely, it is not possible to separate tests of weak and strong invariance for binary items (i.e., financial knowledge) (Muthén & Muthén, 2023). As a result, for this specific construct, both types of constraints were jointly imposed (Muthén & Muthén, 2023).

Results

Financial Well-Being

The model fit indices obtained for our analyses of the measurement structure and invariance of participants' responses to our measure of FWB are reported in Table S4. Across both subsamples of participants, the fit of the CFA and Bifactor-CFA solutions was acceptable, while that of the ESEM and bifactor-ESEM solutions was excellent. Moreover, for both types of models (CFA and ESEM), the fit of bifactor solutions was slightly higher than that of correlated-factors solutions, thus reinforcing Morin et al. (2016, 2017, 2020) to rely on a comparison of parameters to select the optimal solution. Following their recommendations, we first contrasted CFA and ESEM solutions, for which parameter estimates are reported in Tables S5 (factor loadings and uniquenesses in the group using financial budgeting practices), S6 (factor loadings and uniquenesses in the group not using financial budgeting practices), S7 (factor correlations) and S8 (composite reliability).

In both models, the factors appeared reliable and well-defined by acceptable factor loadings (with the sole exception of the PC factor in the ESEM solution estimated in the group using financial budgeting practices which was suboptimal, which could be related to the multiple cross-loadings associated with these items): (a) CFA with budgeting practices: $|\lambda| = .589$ to $.887$; $M = .737$; $\omega = .781$ to $.926$, (b) CFA without budgeting practices: $|\lambda| = .603$ to $.925$; $M = .768$; $\omega = .806$ to $.940$, (c) ESEM with budgeting practices: $|\lambda| = .244$ to $.926$; $M = .505$; $\omega = .493$ to $.848$, (d) ESEM without budgeting

practices: |λ| = . 261 to .924; M = .542; ω = .648 to .893. In this comparison, the critical element is the size of the factor correlations, which should ideally be lower in ESEM than in CFA. This was clearly the case, with the ESEM solutions resulting in substantially reduced estimates of factor correlations: (a) CFA with budgeting practices: |r| = .709 to .923; M = .812, (b) CFA without budgeting practices: |r| = .771 to .923; M = .841, (c) ESEM with budgeting practices: |r| = .346 to .732; M = .524, (d) ESEM without budgeting practices: |r| = .451 to .790; M = .603. Moreover, multiple noteworthy cross-loadings were observed in the ESEM solution (without financial budgeting practices: 52% of the cross-loadings where higher than .100, 17% where higher than .200 and 7% were higher than .300; with financial budgeting practices: 47% of the cross-loadings where higher than .100, 14% where higher than .200 and 5% were higher than .300). In addition to supporting the importance of retaining a solution incorporating cross-loadings (Asparouhov et al., 2015), observing many of them is also consistent with the need to account for a G-factor in the model. Likewise, observing that some factors (e.g., PC) are more weakly defined because of cross-loading also suggest that the items linked to these factors may provide a stronger representation of participants' global levels of FWB than of their specific factors.

Having retained an ESEM solution in the first step, we now contrast it with its bifactor-ESEM counterpart (see Tables S5, S6, and S8). This alternative solution resulted in a very well-defined and reliable G-factor among participants relying (|λ| = .520 to .853; M = .685; ω = .970), or not, on financial budgeting practices (|λ| = .559 to .870; M = .722;

ω = .976), supporting the idea that all items can be used to capture participants' global levels of FWB. When interpreting the results from a bifactor-ESEM solution, one should always keep in mind that, because these models use two main factors (the G-factor and the S-factor, in addition to cross-loadings) to explain the construct-relevant variance at the item-level, factor loadings on the S-factors are typically lower than that of their correlated-factors (Morin et al., 2016, 2020; Perreira et al., 2018). For this reason, it has been recommended to consider omega values approaching .500 as acceptable for S-factors (Morin et al., 2020; Perreira et al., 2018). With these caveats in mind, most S-factors (with the exception of the general subjective FWB factor which was more weakly defined) also appeared to be reasonably defined in both groups: (a) *Income Adequacy* (with financial budgeting practices: $|\lambda|$ = .103 to .414; M = .329; ω = .536; without financial budgeting practices: $|\lambda|$ = .102 to .394; M = .288; ω = .461), (b) *Peer Comparison* (with financial budgeting practices: $|\lambda|$ = .194 to .608; M = .366; ω = .522; without financial budgeting practices: $|\lambda|$ = .236 to .390; M = .335; ω = .485), (c) *General Subjective FWB* (with financial budgeting practices: $|\lambda|$ = .010 to .347; M = .135; ω = .319; without financial budgeting practices: $|\lambda|$ = .020 to .241; M = .135; ω = .438), (d) *Money Management* (with financial budgeting practices: $|\lambda|$ = .170 to .479; M = .310; ω = .623; without financial budgeting practices: $|\lambda|$ = .233 to .426; M = .331; ω = .694), and (e) *Financial Future* (with financial budgeting practices: $|\lambda|$ = .280 to .484; M = .384; ω = 662; without financial budgeting practices: $|\lambda|$ = .208 to .411; M = ..321; ω = .522).

More precisely, these results show that responses to the general subjective FWB primarily serve to reflect participants global levels of FWB, a result already reported by Aubrey et al. (2022). Importantly, our analyses (relying on factor scores) already incorporate a control for unreliability, and observing a globally weaker S-factor in the whole sample does not exclude the possibility that the S-factor may capture some unique form of specificity limited to a subset of profiles. Indeed, a purely weakly defined S-factor will be associated with a score close to the sample mean of zero across profiles, whereas one that retains some meaningfulness in a subset of profiles will deviate from that means in these profiles (Fernet et al., 2023). Finally, observing a marked reduction in the size of the cross-loadings (2% above .200 among participants relying on budgeting practices and 0% among those not relying on such practices) further supports the adequacy of the bifactor-ESEM solution, which was retained for further analyses.

The measurement invariance of the bifactor-ESEM model was finally tested across both subsamples of participants. The results from these tests are reported in the bottom section of Table S4, and support the complete invariance (i.e., measurement equivalence) of this model across subsamples. Factor scores saved from this model will be used in subsequent steps.

Predictors and Outcomes

The model fit indices obtained for our analyses of the measurement structure and invariance of participants' responses to our predictors and outcomes measures are reported

in Table S10. Across both subsamples of participants, the fit of these models was acceptable. The parameter estimates from these models are reported in Tables S11 (factor correlations and reliability) and S12 (factor loadings and uniqueness) and reveal reasonably distinct factors, well-defined by their indicators, and associated with satisfactory composite reliability coefficients: (a) Perceived financial efficacy (with financial budgeting practices: $|\lambda| = .398$ to .835; $M = .703$; $\omega = .917$; without financial budgeting practices: $|\lambda| = .498$ to .852; $M = .746$; $\omega = .934$), (b) neuroticism (with financial budgeting practices: $|\lambda| = .589$ to .733; $M = .674$; $\omega = .772$; without financial budgeting practices: $|\lambda| = .579$ to .778; $M = .656$; $\omega = .754$), (c) perceived stress (with financial budgeting practices: $|\lambda| = .250$ to .870; $M = .532$; $\omega = .891$; without financial budgeting practices: $|\lambda| = .289$ to .865; $M = .553$; $\omega = .899$), (d) psychological distress (with financial budgeting practices: $|\lambda| = .592$ to .887; $M = .802$; $\omega = .917$; without financial budgeting practices: $|\lambda| = .533$ to .879; $M = .801$; $\omega = .918$), (e) life satisfaction (with financial budgeting practices: $|\lambda| = .733$ to .963; $M = .854$; $\omega = .932$; without financial budgeting practices: $|\lambda| = .777$ to .955; $M = .856$; $\omega = .933$), (f) financial knowledge (with financial budgeting practices: $|\lambda| = .627$ to .788; $M = .721$; $\omega = .767$; without financial budgeting practices: $|\lambda| = .593$ to .850; $M = .694$; $\omega = .741$). As the results (see Table 10) supported the complete measurement invariance of this solution across subsamples, factors scores were saved from the final model of latent mean invariance.

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Table S1

Fit of the Combined Financial Skills Scale and Financial Self-Efficacy Scale

	χ2	df	CFI	TLI	RMSEA	RMSEA 90% CI
With a budget	234.134*	37	.941	.912	.071	.063; .080
Without a budget	333.755	37	.933	.900	.082	.074; .090

Note. * $p < .01$; χ^2 = robust chi-square test of exact fit; *df* = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; 90% CI = 90% confidence interval.

Table S2

Standardized Parameter Estimates for the Combined Financial Skills Scale and Financial Self-Efficacy Scale

	With a budget		Without a budget	
Item	λ	δ	λ	δ
FSS1	.806	.351	.785	.383
FSS2	.838	.298	.873	.237
FSS3	.663	.560	.701	.509
FSS4	.384	.853	.451	.796
FSS5	.573	.672	.638	.593
FSE1	.437	.427	.516	.333
FSE2	.538	.393	.605	.329
FSE3	.357	.514	.416	.515
FSE4	.557	.428	.605	.392
FSE5	.632	.492	.682	.445
FSE6	.397	.754	.460	.702

Note. λ = Standardized factor loading; δ = Standardized item uniqueness; Non-statistically significant parameters are marked in italics ($p > 0.05$).

Table S3

Tests of Measurement Invariance of the Combined Financial Skills Scale and Financial Self-Efficacy Scale

	χ2 (df)	CFI	TLI	RMSEA	90% CI	Δχ 2 (Δdf)	ΔCFI	ΔTLI	ΔRMSEA
With a budget VS without a budget									
Configural invariance	582.929 (76)*	.935	.905	.077	.071; .083				
Weak invariance	590.974 (91)*	.935	.922	.070	.065; .076	21.505 (15) *	.000	.017	-.007
Strong invariance	618.500 (100)*	.933	.926	.068	.063; .073	19.965 (9)	-.002	.004	-.002
Strict invariance	606.597 (111)*	.936	.937	.063	.058; .068	16.342 (11) *	.003	.011	-.005
Latent variance-covariance invariance	619.348 (113)*	.935	.936	.063	.058; .068	18.399 (2) *	-.001	-.001	.000
Latent means invariance	633.534 (115)*	.933	.936	.064	.059; .068	15.396 (2) *	-.002	.000	.001

Note. * $p < .01$; χ^2 = robust chi-square test of exact fit; *df* = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; 90% CI = 90% confidence interval; Δ = Change from the previously retained model.

Table S4

Fit of the Alternative Measurement Models Estimated for the Measure of Financial Well-Being

Models	χ^2 (df)	CFI	TLI	RMSEA	90% CI	$\Delta\chi^2$ (Δdf)	ΔCFI	ΔTLI	ΔRMSEA
With Budgeting Practices									
CFA	1089.336 (258)*	.932	.921	.055	.052; .059	---	---	---	---
Bifactor-CFA	954.269 (243)*	.942	.928	.053	.049; .056	---	---	---	---
ESEM	453.924 (178)*	.977	.962	.038	.034; .043	---	---	---	---
Bifactor-ESEM	345.105 (158)*	.985	.971	.034	.029; .038	---	---	---	---
Without Budgeting Practices									
CFA	1216.610 (258)*	.941	.932	.056	.053; .059	---	---	---	---
Bifactor-CFA	1078.316 (243)*	.949	.937	.054	.051; .057	---	---	---	---
ESEM	578.248 (178)*	.975	.959	.044	.040; .048	---	---	---	---
Bifactor-ESEM	424.171 (158)*	.984	.969	.038	.033; .042	---	---	---	---
Multi-Group Tests of Measurement Invariance									
Configural invariance	766.604 (316)*	.984	.970	.036	.033; .039	---	---	---	---
Weak invariance	828.638 (436)*	.986	.981	.028	.025; .031	152.004 (120)	.002	.011	-.008
Strong invariance	868.153 (454)*	.985	.981	.029	.026; .031	39.578 (18)	-.001	.000	.001
Strict invariance	890.873 (479)*	.986	.982	.028	.025; .031	86.363 (25)*	.001	.001	-.001
Latent variance-covariance invariance	937.925 (501)*	.985	.982	.028	.025; .031	80.241 (22)	-.001	.000	.000
Latent means invariance	1001.411 (508)*	.983	.980	.029	.027; .032	82.023 (7)*	-.002	-.002	.001

Note. * $p < .01$; χ^2 = robust chi-square test of exact fit; *df* = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; 90% CI = 90% confidence interval; Δ = Change from the previously retained model

Table S5

Results from the Alternative Measurement Models Estimated for the Measure of Financial Well-Being: With Financial Budgeting Practices

	CFA		B-CFA			ESEM						B-ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
HM1	.640	.328	-.553	.348	.327	**.583**	*.035*	-.183	*-.005*	*.010*	.316	**-.564**	**.414**	-.010	-.015	.048	.059	.318
HM2	.621	.486	-.580	*.090*	.461	**.274**	-.271	-.160	*.029*	-.130	.425	**-.599**	**.103**	-.034	.191	.086	.010	.404
HM3	.730	.466	.631	-.389	.450	**-.581**	-.080	*.102*	*.054*	.169	.440	**.635**	**-.389**	-.020	.005	-.003	.066	.441
HM4	.669	.352	-.572	.393	.325	**.577**	*.032*	-.124	-.110	*.024*	.336	**-.576**	**.410**	-.018	-.011	-.019	.060	.335
PC1	.835	.302	.701	-.543	.215	*-.081*	**.430**	*.074*	.326	*.070*	.402	**.699**	-.032	**.608**	-.066	.078	-.007	.130
PC2	-.694	.445	-.585	.326	.471	*.071*	**-.283**	-.172	-.211	*-.047*	.527	**-.581**	.031	**-.295**	-.015	-.036	-.001	.485
PC3	-.623	.551	-.551	.232	.560	*-.015*	**-.454**	-.294	*.047*	-.081	.473	**-.574**	-.088	**-.194**	.151	.131	.039	.486
GS1	.723	.477	.744	.267	.375	*-.064*	.489	**.282**	*.026*	.147	.330	**.767**	.106	.080	**-.290**	-.089	-.042	.300
GS2	-.593	.504	-.593	*-.060*	.500	.336	-.144	**-.244**	*-.060*	*.019*	.522	**-.599**	.172	.021	**.083**	.021	.089	.513
GS3	.692	.521	.692	*.094*	.512	-.276	.170	**.312**	*.080*	*.036*	.493	**.689**	-.147	.092	**-.010**	-.032	-.042	.493
GS4	.818	.330	.818	*.009*	.332	*-.017*	.197	**.434**	.237	.090	.335	**.807**	.068	.025	**.010**	.079	-.009	.337
GS5	-.620	.508	-.602	.283	.431	.194	.100	**-.584**	*-.065*	.093	.472	**-.617**	.112	.117	**-.166**	-.007	.110	.469
GS6	.831	.309	.830	-.274	.237	.118	-.117	**.926**	.116	*.024*	.160	**.835**	.110	-.069	**.347**	.030	-.016	.165
GS7	.870	.243	.861	*-.070*	.254	-.125	.087	**.475**	.241	*.079*	.265	**.853**	-.010	-.045	**.045**	.094	-.018	.259
GS8	.815	.336	.808	-.196	.309	-.103	*.000*	**.565**	.191	*.047*	.330	**.799**	-.031	-.005	**.165**	.064	-.014	.329
GS9	.781	.390	.789	*.121*	.362	-.283	.190	**.416**	-.134	.246	.301	**.810**	-.101	-.025	**-.100**	-.158	.049	.295

Table S5

Results from the Alternative Measurement Models Estimated for the Measure of Financial Well-Being: With Financial Budgeting Practices (continued)

	CFA		B-CFA			ESEM						B-ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
MM1	.803	.355	.734	.342	.344	*-.072*	.107	*.029*	**.802**	*-.071*	.257	**.724**	.003	.033	-.007	**.479**	-.063	.240
MM2	.732	.464	.709	*.167*	.470	*-.101*	.216	*.104*	**.554**	*-.053*	.406	**.706**	.004	.058	-.089	**.297**	-.087	.395
MM3	.811	.342	.773	.231	.350	*.032*	-.126	.489	**.321**	.191	.303	**.762**	.035	-.010	.279	**.170**	.130	.294
MM4	.821	.327	.774	.232	.348	*-.070*	*.023*	.129	**.380**	.353	.330	**.762**	.006	-.007	.034	**.211**	.209	.330
MM5	.887	.214	.799	.466	.144	*.009*	*-.029*	*.112*	**.664**	.231	.189	**.782**	.045	.003	.118	**.391**	.162	.193
FF1	.633	.599	.578	.245	.606	.169	.098	.329	*-.070*	**.492**	.543	**.581**	.182	.014	.040	-.075	**.280**	.544
FF2	.733	.463	.591	.556	.342	-.116	*-.059*	-.141	.121	**.743**	.422	**.579**	-.049	.007	-.005	.081	**.484**	.421
FF3	.589	.653	.511	.338	.624	-.131	*.024*	*.032*	-.109	**.597**	.597	**.520**	-.030	-.057	-.081	-.073	**.342**	.596
FF4	.866	.251	.730	.374	.328	*-.012*	*-.008*	*-.051*	.312	**.660**	.275	**.711**	.042	.000	.013	.187	**.428**	.275

Note: λ = Standardized factor loading; δ = Standardized item uniqueness; CFA = Confirmatory factor analysis; B-CFA = Bifactor-CFA; ESEM = Exploratory Structural Equation Modeling; B-ESEM = Bifactor-ESEM; G- = Global factor from a bifactor measurement model; S- = Specific factors from a bifactor measurement model; HM = Having money; PC = Peer Comparison; GS = General subjective financial well-being; MM = Money Management; FF = Financial Future. Item labels are reported in Appendix; Main (target) factor loadings are bolded; Non-statistically significant parameters are marked in italics ($p > .05$).

Table S6

Results from the Alternative Measurement Models Estimated for the Measure of Financial Well-Being: Without Financial Budgeting Practices

	CFA		B-CFA			ESEM						B-ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
HM1	.638	.319	-.561	.348	.308	**-.526**	*.052*	*-.023*	*-.106*	*-.089*	.300	**-.559**	**.324**	*.020*	*.018*	*-.012*	*-.027*	.307
HM2	.625	.453	-.578	.111	.443	**-.312**	-.200	*-.165*	*.007*	*-.054*	.435	**-.594**	***.102***	*-.026*	.127	.066	*.045*	.418
HM3	-.676	.543	.590	-.313	.553	**.549**	*-.066*	*.125*	*-.011*	.116	.534	**.593**	**-.330**	*-.050*	*.003*	-.063	*.035*	.531
HM4	.670	.327	-.588	.371	.307	**-.591**	*.081*	*-.113*	-.148	*.064*	.301	**-.584**	**.394**	*.028*	*-.027*	*-.026*	.066	.290
PC1	.861	.258	.751	-.404	.273	*.014*	**.515**	*.060*	.260	.132	.324	**.749**	*.029*	**.390**	*-.050*	.056	*.016*	.280
PC2	-.728	.372	-.624	.398	.357	*.028*	**-.422**	*-.094*	-.185	-.135	.405	**-.616**	*.002*	**-.380**	*-.030*	-.030	*-.051*	.358
PC3	-.650	.495	-.577	.283	.493	*.010*	**-.522**	-.215	*.070*	-.099	.426	**-.601**	*-.098*	**-.236**	.151	.125	*.039*	.436
GS1	.753	.434	.766	*.154*	.390	*.172*	.440	***.265***	*.019*	*.065*	.323	**.798**	*.074*	*.098*	**-.237**	-.086	-.102	.274
GS2	-.603	.502	-.605	*-.037*	.505	-.248	-.086	**-.261**	*-.039*	*-.071*	.525	**-.600**	.139	*-.041*	***-.020***	*.025*	*.000*	.526
GS3	.759	.424	.758	*.044*	.423	.262	.169	**.384**	*.093*	*-.023*	.403	**.753**	-.161	.122	***.070***	*-.026*	-.067	.382
GS4	.862	.257	.860	*.004*	.261	*.116*	.167	**.388**	.276	*.044*	.264	**.841**	*-.063*	.113	**.103**	.105	*-.012*	.255
GS5	-.665	.427	-.641	.379	.279	*.053*	*.135*	**-.924**	*.022*	*.102*	.326	**-.658**	*-.057*	.138	**-.237**	*.006*	.085	.303
GS6	.858	.263	.853	-.193	.235	*-.136*	*-.012*	**.861**	*.119*	*.042*	.210	**.847**	*.088*	*-.028*	**.241**	.065	.002	.212
GS7	.889	.210	.881	-.073	.218	.132	*.058*	**.544**	.167	*.078*	.222	**.870**	*-.059*	*.012*	**.131**	.056	.009	.219
GS8	.856	.268	.846	-.254	.219	*-.041*	*-.066*	**.830**	*.052*	.093	.231	**.843**	*.038*	-.069	**.224**	*.026*	.030	.232
GS9	.799	.362	.808	*.103*	.337	.323	.173	**.375**	*-.119*	.206	.282	**.841**	*-.057*	-.098	***-.168***	-.150	.007	.229

Table S6

Results from the Alternative Measurement Models Estimated for the Measure of Financial Well-Being: Without Financial Budgeting Practices (continued)

	CFA		B-CFA			ESEM						B-ESEM						
Item	λ	δ	G-λ	S-λ	δ	HM λ	PC λ	GS λ	MM λ	FF λ	δ	G- λ	HM λ	PC λ	GS λ	MM λ	FF λ	δ
MM1	.823	.323	.747	.366	.308	*.039*	.101	*.061*	**.767**	-.053	.271	**.734**	*.020*	.050	*.056*	**.425**	-.036	.274
MM2	.796	.366	.766	.229	.361	*.129*	.207	*.181*	**.593**	-.170	.303	**.769**	*.022*	*.047*	*-.037*	**.299**	-.158	.290
MM3	.848	.281	.806	.234	.295	*.077*	-.087	.324	**.398**	.199	.276	**.791**	*-.052*	*-.040*	.158	**.233**	.125	.275
MM4	.863	.255	.812	.266	.270	*.051*	*.010*	*.122*	**.458**	.324	.257	**.801**	*.030*	*-.051*	*.026*	**.271**	.176	.250
MM5	.925	.145	.842	.429	.108	.073	-.002	*.029*	**.722**	.198	.124	**.825**	*.000*	*-.024*	*.058*	**.426**	.118	.119
FF1	.695	.518	.663	.193	.523	-.069	.157	.290	*-.015*	**.413**	.505	**.661**	*.070*	.078	*.041*	*-.027*	**.208**	.506
FF2	.806	.35	.719	.442	.288	.084	*.041*	*-.030*	.102	**.691**	.337	**.706**	*-.051*	.064	*.036*	.051	**.411**	.322
FF3	.647	.582	.603	.264	.566	.124	*.081*	*.165*	-.178	**.541**	.525	**.626**	*.025*	-.076	-.106	-.121	**.261**	.508
FF4	.902	.187	.804	.355	.228	.005	*.012*	*-.052*	.314	**.704**	.170	**.787**	*.036*	*-.013*	*.013*	.199	**.404**	.176

Note: λ: Standardized factor loading; δ = Standardized item uniqueness; CFA = Confirmatory factor analysis; B-CFA = Bifactor-CFA; ESEM = Exploratory Structural Equation Modeling B-ESEM = Bifactor-ESEM; G- = Global factor from a bifactor measurement model; S- = Specific factors from a bifactor measurement model; HM = Having money; PC = Peer Comparison; GS = General subjective financial well-being; MM = Money Management; FF = Financial Future. Item labels are reported in Appendix; Main (target) factor loadings are bolded; Non-statistically significant parameters are marked in italics ($p > .05$).

Table S7

Factor Correlations for the CFA and ESEM Measurement Models Estimated for the Measure of Financial Well-Being

	CFA				ESEM			
	HM	PC	GS	MM	HM	PC	GS	MM
With Budgeting Practices								
PC	-.774**				-.438**			
GS	-.875**	.836**			-.620**	.460**		
MM	-.795**	.792**	.923**		-.486**	.346**	.732**	
FF	-.726**	.709**	.824**	.865**	-.453**	.389**	.694**	.620**
Without Budgeting Practices								
PC	-.771**				-.497**			
GS	-.886**	.861**			-.702**	.612**		
MM	-.811**	.800**	.923**		-.505**	.451**	.790**	
FF	-.778**	.792**	.885**	.898**	-.541**	.485**	.767**	.683**

Note. * $p \leq .05$; ** $p \leq .01$; CFA = Confirmatory factor analysis; ESEM = Exploratory structural equation modeling; HM = Having money; PC = Peer comparison; GS = General subjective financial well-being; MM = Money management; FF = Financial future.

Table S8

Composite Reliability (ω) Estimates from the Alternative Measurement Models Models Estimated for the Measure of Financial Well-Being

	CFA	Bifactor-CFA	ESEM	Bifactor-ESEM
With Budgeting Practices				
G-Factor		.968		.970
HM	.813	.488	.728	.536
PC	.781	.493	.493	.522
GS	.926	.363	.848	.319
MM	.906	.555	.833	.623
FF	.802	.546	.772	.562
Without Budgeting Practices				
G-Factor		.974		.976
HM	.806	.448	.714	.461
PC	.817	.512	.648	.485
GS	.940	.349	.893	.438
MM	.930	.634	.875	.694
FF	.850	.495	.782	.522

Note. CFA = Confirmatory factor analysis; ESEM = Exploratory structural equation modeling; HM = Having money; PC = Peer comparison; GS = General subjective financial well-being; MM = Money management; FF = Financial future; G-factor = Global factor from a bifactor measurement model.

Table S9

Detailed Results from the Final Latent Profile Analytic Solution

	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5			
	Mean	CI	Mean	CI	Mean	CI	Mean	CI	Mean	CI	Var	CI
HM	.399	[-.348, 1.146]	-.626	[-.845, -.407]	.028	[-.006, .061]	1.092	[.754, 1.43]	-.394	[-.736, -.053]	.450	[.382, .519]
PC	.208	[.035, .381]	.048	[-.141, .238]	-.006	[-.043, .03]	-.327	[-.68, .026]	-.006	[-.304, .292]	.568	[.530, .605]
GS	-.067	[-.29, .155]	-.306	[-.508, -.104]	.029	[-.007, .066]	-.220	[-.581, .141]	.161	[-.156, .479]	.543	[.501, .585]
MM	-.338	[-.513, -.163]	-1.576	[-1.868, -1.284]	.086	[.051, .120]	-.502	[-.765, -.239]	1.389	[1.084, 1.694]	.343	[.288, .398]
FF	-.927	[-1.191, -.663]	-.095	[-.38, .19]	-.013	[-.048, .022]	1.288	[.912, 1.664]	.477	[.228, .726]	.526	[.474, .577]
G-Factor	-2.039	[-2.319, -1.76]	-.715	[-1.032, -.398]	.338	[.288, .388]	-1.524	[-1.911, -1.136]	-1.069	[-1.296, -.841]	.490	[.447, .532]

Note. The profile indicators are factor scores estimated with a mean of 0 and a standard deviation of 1; CI = 95% Confidence Interval; Var = Variance; HM = Having money; PC = Peer comparison; GS = General subjective financial well-being; MM = Money management; FF = Financial future; G-factor = Global factor from a bifactor measurement model; Profile 1 = *Very Low FWB with Concerns about the Future*; Profile 2 = *Low FWB with Concerns About Money Availability and Management*; Profile 3 = *Normative-Comfortable*; Profile 4 = *Very Low FWB with Confidence about Current and Future Money Availability*; Profile 5 = *Low FWB with a Positive Future Outlook Anchored in Strong Money Management.*

Table S10

Fit of the Alternative Measurement Models Estimated for the Measures of Predictors and Outcomes

	χ^2 (df)	CFI	TLI	RMSEA	90% CI	$\Delta\chi^2$ (Δdf)	ΔCFI	ΔTLI	ΔRMSEA
Complete Model									
With budgeting practices	4008.887 (832)*	.929	.923	.060	.058; .062	---	---	---	---
Without budgeting practices	4900.788 (832)*	.927	.921	.064	.062; .066	---	---	---	---
Multi-Group Tests of Measurement Invariance									
Configural invariance	8877.301 (1671)*	.929	.923	.062	.061; .063	---	---	---	---
Weak invariance	8633.385 (1714)*	.931	.928	.060	.059; .061	48.031 (43)*	+.002	+.005	-.002
Strong invariance	8514.818 (1826)*	.934	.934	.057	.056; .058	231.284 (112)*	+.003	+.006	-.003
Strict invariance	7739.549 (1869)*	.942	.944	.053	.052; .054	92.946 (43) *	+.008	+.010	-.004
Latent variance-covariance invariance	5425.617 (1891)*	.965	.967	.041	.040; .042	35.334 (22)	+.023	+.023	-.012
Latent means invariance	5308.459 (1898)*	.966	.968	.040	.039; .041	3.707 (7)	+.001	+.001	-.001

Note. * $p < .01$; χ^2 = robust chi-square test of exact fit; *df* = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; 90% CI = 90% confidence interval; Δ = Change from the previously retained model.

Table S11

Correlations and Reliability: Predictors and Outcomes

	With Financial Budgeting Practices						Without Financial Budgeting Practices					
	1	2	3	4	5	6.	1	2	3	4	5	6.
1. PFE	---						---					
2.Neuroticism	-.352**	---					-.391**	---				
3.Stress	-.432**	.692**	---				-.461**	.710**	---			
4.Distress	-.376**	.674**	.880**	---			-.416**	.710**	.883**	---		
5.Life satisfaction	.458**	-.320**	-.410**	-.411**	---		.427**	-.410**	-.486**	-.467**	---	
6. OFK	.629**	-.226**	-.318**	-.275**	.236**	---	.649**	-.345**	-.352**	-.349**	.322**	---
ω	.917	.772	.891	.917	.932	.767	.934	.754	.899	.918	.933	.741

Note. * $p \leq .05$; ** $p \leq .01$; PFE = Perceived Financial Efficacy; OFK = Objective financial knowledge; ω = Composite reliability.

Table S12

Standardized Parameter Estimates for the Measures of Predictors and Outcomes

	With Financial Budgeting Practices		Without Financial Budgeting Practices	
	λ	δ	λ	δ
Perceived financial efficacy				
FSS1	.763	.417	.756	.428
FSS2	.830	.312	.850	.278
FSS3	.720	.482	.768	.410
FSS4	.398	.841	.498	.752
FSS5	.586	.657	.622	.613
FSE1	.754	.432	.803	.356
FSE2	.794	.369	.846	.284
FSE3	.630	.603	.685	.531
FSE4	.835	.302	.852	.274
FSE5	.819	.329	.830	.311
FSE6	.603	.637	.693	.520
Neuroticism				
Neuro1	.728	.469	.667	.555
Neuro2	-.733	.458	-.778	.394
Neuro3	.644	.586	.579	.665
Neuro4	-.589	.633	-.598	.633
Stress				
Stress1	.743	.447	.734	.461
Stress2	.760	.422	.742	.449
Stress3	.870	.243	.865	.252
Stress4	-.257	.488	-.289	.497
Stress5	-.381	.325	-.418	.381
Stress6	-.480	.210	-.553	.255
Stress7	-.547	.375	-.593	.313
Stress8	.637	.594	.622	.613
Stress9	-.350	.498	-.453	.396

Table S12

Standardized Parameter Estimates for the Measures of Predictors and Outcomes (continued)

	With Financial Budgeting Practices		Without Financial Budgeting Practices	
	λ	δ	λ	δ
Stress10	-.544	.396	-.554	.375
Stress11	.591	.651	.528	.721
Stress12	.293	.914	.301	.910
Stress13	-.250	.785	-.302	.753
Stress14	.749	.439	.793	.371
Distress				
Distr1	.869	.244	.877	.230
Distr2	.887	.213	.879	.228
Distr3	.592	.649	.533	.716
Distr4	.838	.298	.825	.319
Distr5	.804	.353	.839	.295
Distr6	.819	.330	.855	.269
Life satisfaction				
SWL1	.874	.236	.879	.227
SWL2	.847	.283	.828	.314
SWL3	.963	.073	.955	.087
SWL4	.853	.272	.842	.292
SWL5	.733	.462	.777	.397
Objective Financial Knowledge				
FK1	.749	.439	.593	.649
FK2	.627	.606	.850	.277
FK3	.788	.380	.639	.592

Note. λ = Standardized factor loading; δ = Standardized item uniquenesses; All parameters are statistically significant ($p \leq 0.05$).