ADAPTING TO IT CONSUMERIZATION: UNDERSTANDING THE ROLE OF THE USER'S IT SELF-CONCEPT CLARITY

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Thesis abstract

Individuals increasingly perform their work tasks using information technologies (IT) which they also consume in their personal lives. In this context, the consumption of IT influences the use of IT to perform work tasks, a trend referred to as IT consumerization. Utilizing the same IT as a consumer for personal purposes and as a user for work purposes requires users to adapt their use of the IT to fit the requirements of work tasks. Users must perform this adaptation while experiencing stress from using these IT across multiple contexts. Furthermore, it has been noted that organizations struggle to support users in their adaptation.

Interacting with the same IT across multiple contexts leads users to develop multiple and heterogeneous beliefs about themselves as IT users, which impact how they use IT to perform work tasks. While attention has been brought to the effect of the content of the beliefs that individuals have toward themselves as IT users, scarce attention has been brought to the role of the clarity of the organization of the beliefs that individuals have toward themselves. Understanding the role of this concept could improve our understanding of user behavior in the context of IT consumerization. Indeed, the clarity individuals have over themselves is known to explain how individuals react and adapt themselves to their environment in the psychology literature.

This thesis investigates the role of the clarity of the organization of users' beliefs toward themselves as IT users in explaining why they adapt themselves when using consumer IT to perform work tasks. The thesis is organized into three chapters: one introduction and two empirical papers. The first chapter serves as an introduction and includes a literature review

regarding the context of IT consumerization and the self-concept clarity concept that will be adapted to study adaptation to IT consumerization in this thesis.

The second chapter is an empirical paper aiming at defining and measuring the clarity of the organization of individuals' beliefs toward themselves as IT users, or their IT self-concept clarity (ITSCC). The first section of the paper defines the ITSCC construct and differentiates it from related constructs. The second section of the paper proposes and validates a scale for ITSCC and tests its utility.

The third chapter is an empirical paper taking attention to the causal impact of ITSCC when interacting with IT. This paper argues that the level of ITSCC can potentially affect users' adaptation of IT use based on suggestions, depending on the message's framing. This is done through a laboratory experiment using a microblogging social networking site as a consumer IT.

Together, these chapters aim to expand our understanding of the beliefs individuals develop toward themselves as IT users, how the clarity of their organization impacts the user's interactions with IT, and how users adapt themselves when using consumer IT for work tasks. The findings from this thesis will inform managers of a key trait of users impacting their interactions with IT at work and how IT features and policies can be designed to take account of this trait.

Résumé de la thèse

Les individus effectuent de plus en plus leurs tâches professionnelles en utilisant des technologies de l'information (TI) qu'ils consomment aussi dans un cadre personnel. Dans ce contexte, la consommation de TI influence l'utilisation de ces TI pour accomplir des tâches professionnelles, une tendance appelée personnalisation des TI. L'utilisation des mêmes TI à des fins personnelles et professionnelles nécessite que les utilisateurs adaptent leur utilisation de ces TI aux exigences des tâches professionnelles. Les utilisateurs doivent effectuer ces adaptations tout en ressentant un stress associé à l'utilisation de ces TI dans plusieurs contextes. De plus, les organisations peinent à soutenir les utilisateurs dans cette adaptation.

En interagissant avec les mêmes TI dans différents contextes, les utilisateurs ont tendance à développer des croyances multiples et hétérogènes à propos d'eux-mêmes en tant qu'utilisateurs de TI, ce qui impacte leur utilisation des TI pour accomplir des tâches professionnelles. Des études portant sur l'effet du contenu des croyances que les individus ont envers soi en tant qu'utilisateurs de TI ont été réalisées, mais peu d'attention a été accordée au rôle de la clarté de l'organisation de ces croyances. De comprendre le rôle de ce concept dans un contexte d'utilisation des TI pourrait améliorer notre compréhension du comportement des utilisateurs dans le contexte de la personnalisation des TI. De fait il a été prouvé dans la littérature de la psychologie que la clarté que les individus ont envers soi joue un rôle connu pour expliquer comment ils réagissent et s'adaptent à leur environnement.

Cette thèse examine le rôle de la clarté de l'organisation des croyances des utilisateurs envers soi en tant qu'utilisateurs de TI pour expliquer comment ils s'adaptent lorsqu'ils utilisent des TI personnelles pour accomplir des tâches professionnelles. La thèse est organisée en trois chapitres : une introduction et deux articles empiriques. Le premier chapitre sert d'introduction et inclut une revue de la littérature sur le contexte de la personnalisation des TI et le concept de clarté du concept de soi qui sera adapté pour étudier l'adaptation à la personnalisation des TI dans cette thèse.

Le deuxième chapitre est un article empirique dont le but est de développer une définition et une mesure de la clarté de l'organisation des croyances des individus envers soi en tant qu'utilisateurs de TI, ou leur clarté du concept de soi en matière de TI (CCSTI). Dans la première section de l'article, nous définissons le construit CCSTI et le distinguons des construits apparentés. Dans la deuxième section de l'article, nous développons et validons une échelle pour la CCSTI. Nous testons ensuite l'utilité du construit.

Le troisième chapitre est un article empirique s'intéressant à l'impact de la CCSTI lors de l'interaction avec les TI. Cet article soutient que le niveau de CCSTI peut potentiellement affecter l'adaptation de l'utilisation des TI des utilisateurs en fonction de suggestions, selon la formulation du message. Cela est réalisé à travers une expérience en laboratoire utilisant un site de réseautage social de microblogage en tant que TI personnelle.

Mis en commun, ces chapitres visent à étendre notre compréhension des croyances que les individus développent envers soi en tant qu'utilisateurs de TI, comment la clarté de leur organisation impacte les interactions de l'utilisateur avec les TI, et comment les utilisateurs s'adaptent lorsqu'ils utilisent des TI personnelles pour des tâches professionnelles. Les résultats

de cette thèse informent les gestionnaires d'un trait clé des utilisateurs impactant leurs interactions avec les TI au travail et comment les fonctionnalités et les politiques de gestion des TI peuvent être conçues pour tenir compte de ce trait.

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The development of this thesis arose and grew from many interactions with diverse professors from the Joint Program. I first explored the literature related to the theme of my thesis in Prof. Geneviève Bassellier and Prof. Jui Ramaprasad's seminar on behavioral economics. I further explored those ideas by taking Prof. Laurette Dubé's seminar on precision retailing. The idea fledged out by taking Prof. Suzanne Rivard's seminar on IT research methods leading to the production of my first conference paper, which was nominated as the second runner-up for Best ERF paper at AMCIS 2020 and eventually served as the foundation for the final chapter of this thesis. Other faculty members' feedback on my ideas and presentations was instrumental in advancing my ideas. This includes Profs. Taha Havakhor, Alain Pinsonneault, Warut Khern-am-nuai, Hyunji So, Sameer Borwankar, Kyunghee Lee and Kunsoo Han. I want to thank Prof. Animesh for his support and mentorship in teaching and for encouraging me to participate in AMCIS 2023, where winning the Best ERF paper award stands as one of the highlights of my doctoral journey.

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Contribution to original knowledge

The work we carry out within this thesis makes several original contributions to knowledge. In the first empirical paper (Chapter 2) of this thesis, we provide a conceptual definition for individuals' clarity toward themselves as IT users. This is done by adapting the concept of self-concept clarity (SCC) to the context of IT use as we define the IT self-concept clarity (ITSCC). We differentiate this new concept from related concepts in the psychology and information systems literature. We also develop an operational definition for ITSCC by generating a measurement scale. We validate this scale by performing multiple studies, including a cross sectional and longitudinal study.

The longitudinal study shows that ITSCC improves our understanding of how users adapt while experiencing technostress when using consumer IT to complete work tasks. This study shows that experiencing technostress will negatively influence the ITSCC of users. Maintaining a high level of ITSCC while being confronted with technostress will allow users to perform innovative work behavior. This study also shows that an organization's support of users when using consumer IT can enable them to increase their ITSCC. Therefore, this study shows that managers should consider ITSCC and implement policies that will allow them to maintain clarity over themselves and perform innovative work behavior.

In the second empirical paper of this thesis (Chapter 3), we provide evidence that the new concept of ITSCC can impact how individuals interact with the information system's persuasive communication features and perform work tasks. We notably show that ITSCC influences how individuals react to framed suggestion messages. By designing an experiment where we manipulate ITSCC, we provide evidence of the causal impact of this new concept on

user behavior. The findings from this study contribute to the knowledge of the persuasive design stream by informing designers on the most effective type of framing for their suggestion messages. Furthermore, this study answers the call to study how domain-specific self-concept clarity can influence behavior in those domains.

Contributions of authors

Dominique Welt is the first author of all the manuscripts included in this thesis. The first author's main contributions are collecting data and analyzing and writing the entire manuscripts. Dr. Bassellier is the co-author of the first, second, and third chapters. Her main contributions are providing support regarding the ideas and research design, providing feedback, and reviewing manuscripts to improve the analysis and writing. Committee members Dr. Lee and Dr. Lapointe, commented on the manuscripts during the research proposal presentation process.

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List of abbreviations

AF:	Acceleration Factor
AI:	Artificial Intelligence
AGFI:	Adjusted Goodness of Fit Index
AMCIS:	Americas' Conference on Information Systems
ANCOVA:	Analysis of Covariance
ANOVA:	Analysis of Variance
AVE:	Average Variance Extracted
BYOD:	Bring You Own Device
CA:	Cronbach's Alpha
CFA:	Confirmatory Factor analysis
CFI:	Confirmatory Fit Index
CMB:	Common Method Bias
COVID-19:	Coronavirus Disease of 2019
CSE:	Computer Self Efficacy
DF:	Degrees of Freedom
ECIS:	European Conference on Information Systems
GFI:	Goodness of Fit Index
HTMT:	Heterotrait-monotrait
ICIS:	International Conference on Information Systems
IS:	Information Systems
ITSCC:	Information Technology Self-Concept Clarity
IT:	Information Technology
MANOVA:	Multivariate Analysis of Variance
n:	Sample size
PACIS:	Pacific-Asia Conference on Information Systems
PCA:	Principal Component Analysis
OC:	Optimal Coordinates
RMSEA:	Root Mean Square of Error Approximation
SCC:	Self-Concept Clarity
SD:	Standard Deviation
SE:	Standard Error
SMMS:	Social Media Management Systems
SNS:	Social Networking Sites
SRMR:	Standardized Root Mean Squared Residuals

1 Chapter 1: Introduction and background: IT consumerization and self-concept clarity

1.1 Introduction

Individuals increasingly perform their work tasks using consumer Information Technology (IT), which are IT they use in their personal lives, such as social networking sites (SNS) and smartphones. This trend gained in popularity during the COVID-19 pandemic, when organizations were forced to engage in digital transformation processes while having limited capabilities in terms of enterprise IT (Papagiannidis et al. 2020; Yin et al. 2022). Studies of IT consumerization have brought further attention to this trend, defined as the use of an IT in everyday personal life influences its use when completing work tasks (Gregory et al. 2018; Harris et al. 2012a). IT consumerization can benefit users as it has the potential to increase their performance (Doargajudhur and Dell 2019b; Junglas et al. 2022). This is because users can apply knowledge gained through their personal consumption of the IT to identify and use features that best fit their work tasks.

Meanwhile, some users do not benefit from using consumer IT to carry out work tasks, yielding mixed results regarding the impact of IT consumerization. Some users experience loss of performance, degraded experience, and increased technostress when using their consumer IT for work, even if they possess self-efficacy in using their consumer IT in personal contexts (Köffer et al. 2014b; Mueller et al. 2016; Niehaves et al. 2012; Ortbach et al. 2013). A failure to adapt themselves to using consumer IT in the work context could explain a user's performance loss (Köffer et al. 2014b).

The behaviors through which individuals change themselves in IT use contexts are known as adaptation behaviors (Barki et al. 2007) and these have been identified as key determinants of individual performance when using IT (Bala and Venkatesh 2016; Beaudry and Pinsonneault 2005; Gnewuch et al. 2016). Individuals can perform such adaptations based on their internal knowledge but also from external sources, such as suggestion messages taken from decision support systems (Chen et al. 2022). The capacity of individuals to perform such adaptations can also be reduced when users experience technostress from the use of IT (Tarafdar et al. 2015).

To explain how users perform adaptation behaviors, research on IT consumerization has taken an interest in the content of beliefs that individuals have accumulated toward themselves as IT users across multiple contexts. It has been shown that users who consume IT in their personal lives before using that same IT to complete work tasks accumulate beliefs about themselves as IT users (Carter and Grover 2015). Research has focused on the content of beliefs such as computer self-efficacy and personal innovativeness to explain an individual's adaptation and performance in the workplace (Schmitz et al. 2016). Other studies have looked at the aggregated worth that individuals attribute to the multiple beliefs they have toward themselves as IT users to explain these outcomes (Janneck et al. 2013; Zylka et al. 2015).

However, studies have yet to consider the organization of those beliefs, which, in the case of consumer IT, is complex as interactions with IT occur across multiple contexts (Gregory et al. 2018; Polites et al. 2018). Beliefs can be organized in ways that are more or less coherent and can be held with different degrees of certainty, which can affect the users' interactions with IT (Harkin and Kuss 2021). Indeed, the degree of coherence and certainty in individuals' beliefs toward themselves affects how individuals react to their environment (Campbell et al. 1996). For

instance, it can influence how individuals react to stressors within their environment and to suggestions to adapt themselves (Duan et al. 2021; Ritchie et al. 2011).

In psychology, the clarity of the organization of beliefs that individuals have toward themselves is conceptualized as the self-concept clarity (SCC) (Campbell et al. 1996), and its role has yet to be explored in the context of IT use. Therefore, we seek to adapt the SCC concept to the IT use context by conceptualizing the IT self-concept clarity (ITSCC). Our aim is to enhance our understanding of the role of the organization of beliefs that individuals develop about themselves as IT users across multiple contexts and to allow for a better understanding of how individuals respond to their environment within an IT consumerization context.

In this thesis, we propose a literature review and two empirical papers to answer the following questions:

- What is ITSCC and how can we measure it?
- What is the role of ITSCC in explaining how users adapt to technostress in the context of IT consumerization?
- What is the role of ITSCC in explaining the effectiveness of messages and suggesting adaptations to users?

This thesis contributes to the discussion regarding the role of the user's self in explaining interactions with IT and develops a better understanding of the phenomenon of IT consumerization. Furthermore, this thesis leverages self-reported information and behavioral observations gathered through surveys and experiments to support its arguments.

1.2 Literature review

This section introduces the research areas relevant to this thesis. It starts by bringing attention to IT consumerization, the context for this thesis, and adaptation, the outcome of interest for our study. It then introduces the background literature on self-concept clarity. This section ends by discussing the relevance of adapting this concept in order to explain outcomes in the context of IT consumerization.

1.2.1 IT consumerization

This section introduces the different perspectives on IT consumerization, summarized in Table 1-1. We decide which of these perspectives to utilize for this thesis based on our interest in the relationship between users' adaptations when using IT across multiple contexts and the clarity of the organization of their beliefs toward themselves as IT users.

Table 1-1: IT consumerization perspectives and definitions

IT consumerization perspectives	**Definition of IT consumerization**	**Example**
Consumer market	IT consumerization is the use of IT designed for the consumer market in the workplace (Köffer et al. 2014b).	A user utilizes a tablet (e.g.: an iPad) to complete work tasks.
Ownership	IT consumerization is the use of IT owned by employees to perform work tasks (Junglas et al. 2019).	A user utilizes their own smartphone to complete work tasks.
Role	IT consumerization is the process whereby the changing practices and expectations of consumers, shaped by the wide adoption of digital technologies in everyday life, will influence the IT-related activities of workers and managers in organizations (Gregory et al. 2018 p.1228).	An individual who consumes SNS for personal purposes uses SNS to complete work tasks.

1.2.1.1 The consumer market perspective

IT consumerization was first defined by Harris et al. (2012) as a phenomenon where employees use IT designed for their consumption in the consumer market, such as tablets and

SNS, to perform work tasks. This perspective emphasizes the characteristics of IT initially designed for the consumer market compared to enterprise IT.

This definition highlights the positive effects of different design features of consumer IT, such as user-friendliness and interoperability with other IT, as factors influencing the use of consumer IT at work, potentially yielding performance gains and IT use innovation. For instance, a study comparing the usage of tablets initially designed for consumers in their personal lives with computers designed to complete work tasks showed that using consumer IT led to greater IT innovation (Köffer et al. 2015b). Another study highlighted that greater IT ease of use and interoperability facilitated the use of consumer IT within the work context, which can improve employee performance (Köffer et al. 2014b).

1.2.1.2 The ownership perspective

Another perspective on IT consumerization emphasizes the importance of the ownership of IT (Köffer et al. 2014b). The ownership perspective defines IT consumerization as the use of IT owned by the user to complete work tasks. This perspective focuses on the perceptions that individuals have accumulated toward their IT before its use within an organizational context (Leclercq-Vandelannoitte 2015).

This approach is well suited to study interactions between users and IT devices over which users have ownership to complete work tasks. For instance, research has found that individuals' positive attitudes toward their smartphones positively affect the decision to use such devices to complete work tasks (Junglas et al. 2019). This positive attitude towards their own personal devices motivates users to generate and implement new ideas for performing their work tasks. Meanwhile, the ownership perspective also highlights that the habits individuals have created by

consuming their devices in a personal context, such as visiting non-secure websites, might have negative consequences when using their privately owned devices to complete work tasks (Barlette et al. 2021).

1.2.1.3 The Role perspective

A broader perspective on IT consumerization is interested in users' interactions with IT in their everyday lives and how it impacts their interactions with IT for work (Gregory et al. 2018). This perspective highlights the importance of considering the different roles an individual has when interacting with IT. It implies that individuals have the role of a consumer when consuming IT within their personal lives for hedonic purposes or when carrying out personal activities, and the role of a user when using IT to perform work tasks (Piszczek et al. 2016). It assumes that the experience individuals have as IT consumers impacts their use of IT within organizations. This perspective allows for the investigation of individuals' beliefs toward themselves and how they affect their interactions with IT artifacts such as SNS across multiple contexts.

Under this perspective, studies have argued that consumers' behaviors in their personal lives and the beliefs they have formed about themselves as IT users influence their use and adaptations when completing work tasks (Gregory et al. 2018). Regarding behaviors, studies have shown that users with established routines when consuming IT in their personal lives were more satisfied in jobs that required the use of consumer IT (Yin et al. 2022). This stream highlights the spillover between the consumption of IT within the personal context to the use of IT within the work context.

Other studies have focused on the impact of the beliefs that individuals have accumulated in their personal consumption of IT when completing work tasks. For instance, a study found that

users who believe that they possess traits such as computer innovativeness and computer self-efficacy, developed in the personal context, have a positive effect on adapting technology to perform work tasks, leading to an increase in their task performance enabled by consumer IT (Schmitz et al. 2016). Another study argued that having accumulated the belief to be competent IT users in the personal context, users are more likely to be empowered to use consumer IT to perform their work tasks, improving their IT-enabled performance (Junglas et al. 2022). These findings highlight how the beliefs individuals accumulate toward themselves as IT users within the personal context can play a key role in how users adapt their IT use in the work context.

Out of the different perspectives on IT consumerization, the role perspective takes an interest in the users' accumulation of beliefs toward themselves as IT users as they consume and use IT across multiple contexts and how they affect the user's interactions with IT in the work context. The role perspective can be contrasted with the market perspective, which has a greater focus on the characteristics of consumer IT. The role perspective also differentiates itself from the ownership perspective, which focuses on the beliefs individuals develop toward an IT rather than their beliefs toward themselves. Hence, the role perspective on IT consumerization fits well with the interest of this thesis in the organization of the beliefs that individuals develop toward themselves as IT users through their use of IT across multiple contexts. Therefore, we leverage the role perspective on IT consumerization by using Gregory et al.'s (2018) view of IT consumerization in this thesis.

1.2.2 Adaptation and IT consumerization

Studies using the role perspective on IT consumerization highlight the importance of adaptation behaviors to understand the benefits of IT consumerization (Junglas et al. 2022;

Schmitz et al. 2016). This finding aligns with the broader IT use literature that states that performing adaptation behaviors enables users to take full advantage of technologies at work (Orlikowski 2000).

The broader literature on IS use defines adaptation behaviors as the behavioral efforts deployed by users to improve the fit between the IT, their task, and their characteristics (Wu et al. 2017). Adaptation behaviors are divided into three categories within the IS literature. First, individual adaptation refers to changes that Individuals make to themselves. Examples include performing learning activities autonomously or with their peers to improve their abilities to use IT (Barki et al. 2007). These behaviors have been identified as key antecedents of individual benefits from using IT for work. By learning how to utilize an IT system better, users can better adapt to make the system fit their task requirements, leading to improved performance. Second, IT adaptation behavior relates to modifying the IT to fit the task better (Schmitz et al. 2016). This type of adaptation enables users to be more effective at completing their tasks by using an IT with characteristics that better fit task requirements. Finally, task adaptation behaviors involve modifying the work process to take advantage of the IT to improve performance. This also allows for creating a better fit between the task requirements and the characteristics of the IT, leading to improved performance.

Studies in the context of IT consumerization have shown that adaptation, in line with the IT use literature, is a variable of interest. In this context, individual adaptation refers to learning how to use consumer IT to better perform work tasks from documentation, colleagues and through exploratory use (Köffer et al. 2014b). Studies of IT adaptation in IT consumerization show that modifying consumer IT to fit work task requirements improves users' performance (Schmitz

et al. 2016). Task adaptation has also been studied in the IT consumerization context, with findings showing that modifying tasks to take full advantage of consumer IT, by performing innovative IT consumerization behaviors, allows for improvement in the fit between consumer IT use and the requirements of using consumer IT in the workplace (Junglas et al. 2022). For instance, by modifying a work process by taking advantage of the mobility afforded by a smartphone, this adaptation enables users to improve their performance (Schmitz et al. 2016). These findings shows that individual, IT and task adaptation are relevant in the IT consumerization context.

Given the importance of adaptation within the context of IT consumerization, theoretical models have been developed to explain this outcome. In the next section, we review IT identity theory, a model developed to investigate adaptation in the context of IT consumerization.

1.2.3 The IT identity theory

Carter and Grover (2015) developed the IT identity theory to study users' relationship with IT by taking an interest in the influence of the beliefs that individuals hold toward themselves as IT users across multiple contexts. This theory brings further attention to how using IT is embedded across multiple contexts and how it can influence adaptation to perform work tasks (Carter et al. 2020a). The IT identity theory argues that interacting with an IT across multiple contexts makes users more likely to integrate the use of IT within their sense of self, developing an IT identity (Carter and Grover 2015). This occurs because interacting with the same IT across multiple contexts increases the user's reliance on this IT to reach their personal goals. The greater extent to which users interact with this IT across multiple contexts entails that they invest in their identity, making them more likely to validate this identity across multiple contexts.

IT identity is built as users aim to verify it across multiple contexts, in ways such as motivating themselves to use IT creatively within the work context (Carter et al. 2020a). For instance, individuals using smartphones across multiple contexts are more likely to perceive their smartphone use as part of their sense of self. Including IT within their sense of self makes them more likely to use their smartphone and to be motivated to find creative ways to use this IT for work.

Integrating an IT within their sense of self leads users to attribute to themselves the capabilities afforded by the IT (Carter et al. 2013). For instance, an individual who has strongly included the use of their smartphone within their sense of self and believes that their smartphone gives them the ability to be connected is more likely to attribute to themselves, as smartphone users, the belief that they are connected. Integrating these beliefs into their sense of self of themselves makes users more likely to activate those beliefs about themselves in the various contexts where they interact with this IT.

While individuals are more likely to develop IT identities associated with positive experiences, it is also possible for users to attribute negative beliefs associated with the use of IT for which they have developed an IT identity (Carter et al. 2018). For instance, users of SNS are likely to develop an identity related to this IT across multiple activities and across contexts (Polites et al. 2018). Studies have found that users of SNS with a strong IT identity are likely to develop both positive and negative beliefs toward themselves as users of this IT, such as being distracted and addicted. However, there is a need for more quantitative studies to further understand the potential impact of including both positive and negative beliefs.

1.2.4 Theoretical approach: Self-concept and self-concept clarity

We leverage the SCC literature to address the gap regarding the lack of studies about the users' development of both positive and negative beliefs toward themselves as IT users. This section introduces the broader literature surrounding, the general self-concept, SCC and the IT self-concept to further contextualize this thesis.

1.2.4.1 The self-concept

In psychology, the self-concept stands as the beliefs that one individual holds toward themself (Oyserman et al. 2012). These beliefs are composed of the competencies and traits one attributes to oneself (Leonard et al. 1999). Traits refer to the label that individuals place on their patterns of behavior, such as being "innovative" or being "anxious" (Cattell 1977). Competencies refer to an individual's skills, abilities, talent, and knowledge (Leonard et al. 1999).

The dominant perspective on self-concept is that it is multidimensional, comprised of multiple constructs composing the self (Showers and Zeigler-Hill 2012). Individuals develop these different constructs as they develop different beliefs toward themselves across different situations (Leonard et al. 1999) and domains such as academia, their physical appearances, or their families (Marsh 1994). These constructs can be developed hierarchically due to the specificity of certain situations within a broader context (Showers and Zeigler-Hill 2012). The general self-concept stands at the apex of this hierarchy under which are situated specific self-concept constructs (Shavelson et al. 1976). For example, under the general self-concept, one individual may have developed an academic self-concept, and underneath have developed a mathematic self-concept or a science self-concept. Specific self-concepts are activated depending on situational cues (Markus and Wurf 1987). For instance, a "family self-concept" is

more likely to be activated when an individual is spending time at home with their family (Feiring and Taska 1996).

The self-concept stands as an evaluation of the self that considers the cognitive and attitudinal appraisal individuals make toward themselves (Bong and Skaalvik 2003). The level of the self-concept can be assessed by evaluating the extent to which an individual attributes value to their self-referred beliefs (Byrne 1996). An individual's higher level of self-concept is reflected by their use of positive terms to describe themself due to the value they attribute to their traits and competencies (Blaine et al. 1998).

Research on the impact of self-concept as a motivation for behavior outlines the importance of its level (Judge et al. 1998; Setterlund and Niedenthal 1993a). This stream of research is based on self-consistency theory, which assumes that individuals are motivated to behave consistently with the beliefs they hold toward themselves (Leonard et al. 1999). Behaving in a fashion that is congruent with their self-concept provides comfort to individuals, while behaving in a fashion that is incongruent creates discomfort (Oyserman 2009). This means that individuals are more likely to behave in a manner that is coherent with their self-concept. For instance, employees who believe in being creative are more comfortable coming up with new solutions when performing their work (Jiang et al. 2011). The self-concept hence provides internal motivation to carry out behaviors.

1.2.4.2 Self-concept clarity

The effect of the self-concept on an individual's reaction to their environment can, however, vary depending on the clarity of the self-concept (Campbell 1990). An individual's clarity over the organization of those beliefs is referred to as self-concept clarity (SCC). Campbell

(1996, p. 141) defined SCC as “The extent to which an individual’s beliefs toward themself are defined with confidence, internal consistency and are stable over time.” It stands as an evaluation that the individuals make toward the organization of their beliefs that compose the self-concept.

Beliefs that are positive or negative can be part of a SCC at a high or low level. For instance, individuals who are certain that they are good and generous have a high level of self-concept clarity. Individuals can also have a high level of SCC if they hold negative beliefs about themselves with certainty and coherence (Dunlop 2017). Hence, an individual who is certain that they are ineffective and unskilled also have high levels of SCC. Individuals hold lower levels of SCC when holding uncertain beliefs toward themselves and finding that their self-referred beliefs are not coherent with one another. For instance, an individual who believes in being generous yet selfish may find that such beliefs conflict with one another, reducing their level of SCC.

Possessing a higher level of SCC enables individuals to set clear goals for themselves based on their self-concept (Fite et al. 2017). Having a higher level of SCC enables individuals to identify which beliefs they hold toward themselves that they want to maintain. This allows them to establish how to adapt to their environment to maintain their self-concept (Lewandowski Jr et al. 2010). A lack of clarity regarding the self-concept mitigates the role of the content of the beliefs they hold toward themselves in determining how an individual must adapt (Setterlund and Niedenthal 1993a). An individual with low SCC has issues identifying which beliefs they want to maintain, reducing the effect of the belief content as a motivation. Instead, individuals with lower SCC are more likely to rely on environmental factors, such as social influences, to determine goals for themselves (Campbell et al. 1996). Low SCC individuals are hence motivated to reach goals set by external standards rather than internal standards (Duan et al. 2021).

Furthermore, a higher level of SCC enables individuals to better cope with stressful situations. Individuals with higher levels of SCC are more likely to address problems actively when confronted with a stressor. This is because having a higher level of SCC provides individuals with greater control over themselves, making them more likely to know which knowledge and abilities to mobilize to respond to their environment (Smith et al. 1996). For instance, when studying for an evaluation, students with higher levels of SCC are more likely to further engage in autonomous learning activities to improve their performance (Thomas and Gadbois 2007).

The literature on the self-concept and SCC presented in this section relates to the organization of the beliefs toward their self for general domains (Showers and Zeigler-Hill 2012). Constructs relating to the general self-concepts provide poor predictive power when investigating domain-specific outcomes due to individuals' specific belief systems for different domains (Bong and Skaalvik 2003).

1.2.4.3 IT self-concept

To better predict outcomes related to interactions with IT, certain studies focus on the beliefs that one holds toward themselves as IT users, or the IT self-concept. The IT self-concept restricts the self-concept constructs to beliefs regarding the use of an IT (Janneck et al. 2013; Schauffel et al. 2021; Zylka et al. 2015). Initial research surrounding the IT self-concept was carried out within the context of the studies on education. In this context, initial conceptualizations of the IT self-concept were nested within the academic self-concept hierarchy, restraining the IT self-concept as individuals' beliefs toward themselves as IT users within achievement situations (Janneck et al. 2013). Furthermore, considering that individuals initially primarily interacted with computers as their main IT, the conceptualization of the self-concept

within the IT use context was limited to individuals' beliefs toward themselves as computer users. The IT self-concept has since been broadened to other IT such as smartphones and software.

Considering the increasing importance of interactions with IT within everyday life has led to conceptualizations encompassing beliefs that users hold toward themselves as IT users in general, including academia, work, and everyday life (Zylka et al. 2015). While such conceptualizations are based on previous studies situating the IT self-concept within the academic self-concept, they do not limit the self-referred beliefs to achievement situations. Certain conceptualizations of the IT self-concept include both traits and competencies. For instance, Janneck et al. defined the computer-self-concept (2013, p. 2) as "an academic ability concept that explicitly involves self-referred evaluations concerning computer-related skills, interests, experiences, attitudes, and beliefs". This conceptualization includes the experience that individuals have toward computers, the emotions felt toward computers, and the beliefs toward their cognitive skills and traits. Other studies have conceptualized the IT self-concept by limiting it to the user's IT use competencies (Schwanzer et al. 2005). In this conceptualization, the IT self-concept level is measured by assessing to what extent individuals have a positive appraisal of their IT use skills, knowledge, and abilities (Schauffel et al. 2021). This conceptualization of the IT self-concept hence limits itself to a cognitive appraisal of competence.

Several impacts of having a high level of IT self-concept have been identified. Individuals with a high-level IT self-concept are more likely to work in an environment where IT is essential (Janneck et al. 2013). They are also more likely to acquire additional IT knowledge and apply it when using their IT (Zylka et al. 2015). Furthermore, recent studies on the role of the IT self-concept within the work setting show a positive effect of the IT self-concept on the acceptance

of IT and its continuance (Schauffel and Ellwart 2021). These findings highlight that individuals with a higher level of IT self-concept are likely to act in coherence with their self-concept and to adapt themselves to maintain their high IT self-concept level.

Since this thesis takes an interest in the use of consumer IT for work, we adopt the broader conceptualization of the IT self-concept, which encompasses traits along with competencies in general toward a specific IT. This conceptualization is consistent with IS studies that have shown that individuals develop beliefs regarding their traits and competencies as IT users of specific IT such as devices (e.g., smartphones) or software (e.g., Microsoft Excel) (Carter et al. 2020a). The extent to which individuals make a cognitive evaluation of their selves as IT users by evaluating their competence has been studied from many angles. For instance, individuals evaluate whether they possess the skills and knowledge required to perform tasks using IT (Kollmann et al. 2009; Wang and Haggerty 2011). These interactions with IT lead individuals to make cognitive evaluations of themselves as IT users, for instance, by evaluating whether they would be able to perform tasks with IT (Compeau and Higgins 1995). Further studies have shown that users also integrate an attitudinal appraisal of themselves as IT users when assessing whether to use IT to take part in tasks (Schauffel and Ellwart 2021). The broader conceptualization of the IT self-concept allows these different perspectives to be encompassed. An illustration of our conceptualization of the IT self-concept and its position in a partial representation of the broader self-concept are featured in Figure 1-1.

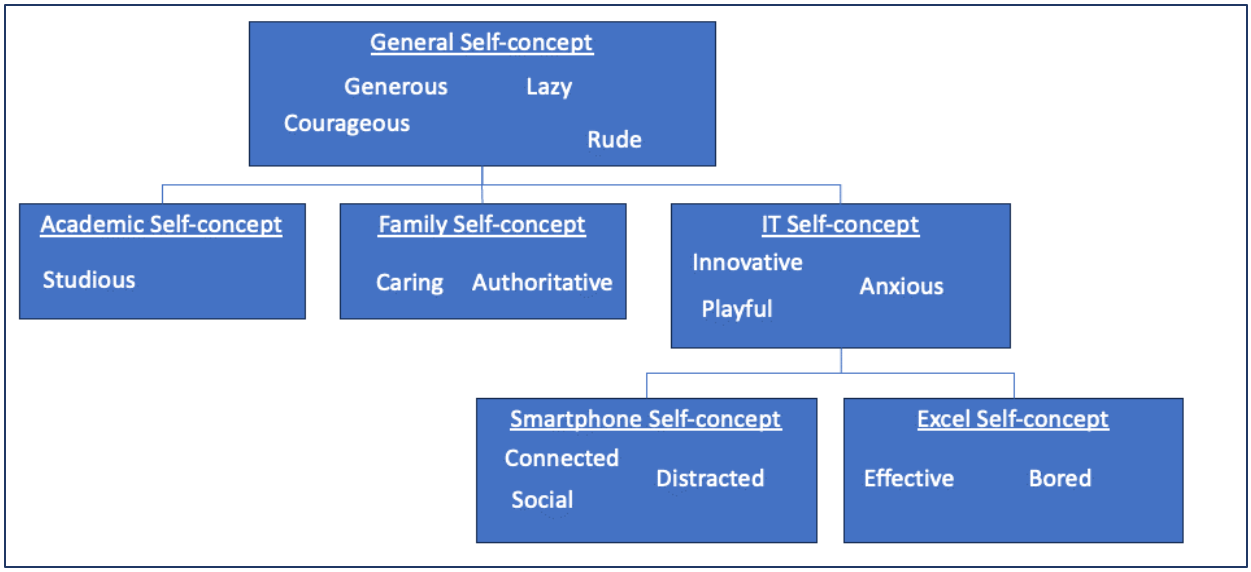

Figure 1-1: Partial self-concept structure representation

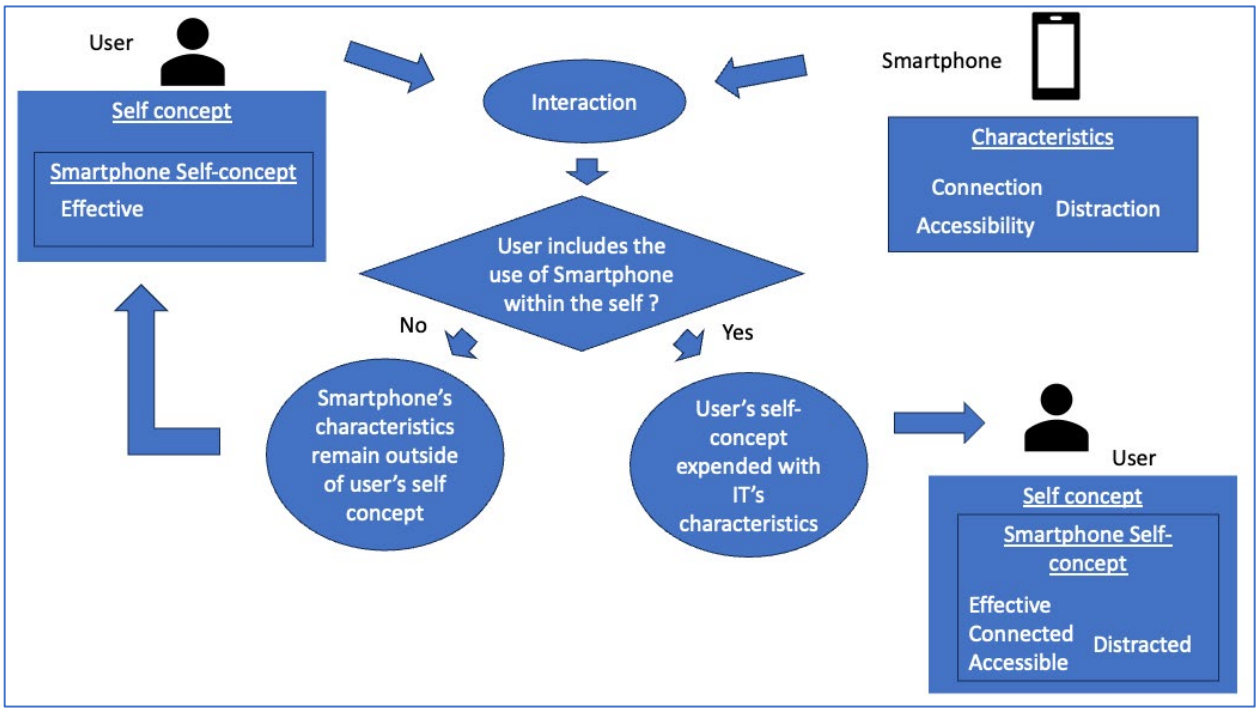

Figure 1-2: IT identity process

1.2.4.4 IT self-concept and IT identity

The IT self-concept is related to the IT identity formation process. Indeed, developing an IT identity leads individuals to integrate attributes of the IT within their IT self-concept. A user who develops an IT identity is likely to encompass capabilities afforded by an IT. For instance, a smartphone user developing an IT identity toward their smartphone, which affords them connectivity, is likely to integrate "Connected" within their smartphone self-concept (Carter et al. 2013). Meanwhile, a user who does not develop an IT identity may still develop beliefs toward themself as an IT user, for instance, that using IT is making them effective at completing their task. However, users with lower levels of IT identity are less likely to integrate the capabilities afforded by the IT within their self-concept. This IT identity process is featured in Figure 1-2.

1.2.4.5 Organization of the IT self-concept

Recent studies regarding the IT self-concept have highlighted the existence of both positive and negative IT self-concepts. This can be explained by the presence of both positive and negative beliefs that individuals generate toward themselves as IT users (Zylka et al. 2015). For instance, the same user may feel that they possess a high level of IT innovativeness and a high level of IT anxiety (Janneck et al. 2020). One approach used to evaluate this heterogeneity within the IT self-concept is to consider both the positive and negative beliefs within individuals' aggregated evaluation of their IT self-concept (Zylka et al. 2015). The findings of Zylka et al. (2015) using this conceptualization show that both the aggregated positive beliefs and negative beliefs are correlated and associated with engagement in IT use. One explanation for this is that further engaging in their interactions with IT leads users to integrate negative and positive beliefs toward themselves as IT users.

However, we found no approach allowing for an evaluation of the clarity organization of the IT self-concept and the extent to which the positive and negative beliefs are coherent. This constitutes a gap in our understanding of the user's IT self-concept. We propose to address this gap by adapting SCC to the IT use context. Based on the broader literature regarding the SCC, adapting this concept to the IT use context could explain how individuals adapt themselves in the IT consumerization context. This is because studies on SCC have shown that having clarity over the self explains how individuals respond to their environment and make decisions. We therefore aim to answer the following question in this thesis: How can we define and measure the clarity of the organization of the beliefs included within the IT self-concept of users?

1.2.5 Relevance of adapting SCC to IT consumerization

Adapting the SCC concept to the context of IT use is relevant in answering several questions relating to IT consumerization. In this context, users accumulate heterogeneous beliefs with various degrees of certainty toward themselves as they use IT across multiple contexts (Carter et al. 2018). This creates variability in the clarity in the organization of the beliefs they hold toward themselves as IT users. Taking into consideration this variable has the potential to improve the predictive power of models interested in the adaptation of users as SCC has been tested as an antecedent to various behaviors, such as responding to feedback and coping with stress (Guadagno and Burger 2007; Ritchie et al. 2011). Therefore, conceptualizing a self-concept clarity specific to the IT use context allows for a better understanding of the adaptation of users in an IT consumerization process. The following sections provide background for the two studies carried out in this thesis, where adapting SCC to the IT use context allowed expanding statistical models to explain adaptation in an IT consumerization process.

1.2.5.1 Technostress and IT consumerization

SCC has been identified as a mediator explaining how users react to stressful events. Individuals possessing the ability to maintain their levels of SCC when exposed to stressors have been known to be more likely to preserve their well-being in demanding environments (Ritchie et al. 2011). Furthermore, individuals with higher levels of SCC are known to be more likely to proactively address problems when confronted with such stressors.

The relationship between SCC and response to stressors is pertinent to the context of IT consumerization where technostress is a factor impacting adaptation. For instance, role ambiguity, or the user's lack of information needed to perform their role using their consumer IT, has been highlighted as a source of technostress in IT consumerization (Ortbach et al. 2013). This ambiguity arises due to users' responsibility in the context of IT consumerization. In settings where users exclusively use enterprise IT to perform work tasks, organizations are expected to control and support individual adaptation to IT (Jarrahi et al. 2017). However, in an IT consumerization context, users are responsible for their own adaptation in their use of consumer IT from a personal setting to an organizational one (Köffer et al. 2014). This responsibility is seen as an increase in the users' workload as they must adapt themselves within a context where the organization does not necessarily provide the resources to support them (Ortbach et al. 2013). Hence, users must expense personal resources, such as time and effort, to adapt themselves. They are in situations where their autonomy in managing their individual adaptation to IT results in tension between their work and personal needs (Mazmanian et al. 2013). These tensions create uncertainty regarding what is considered the appropriate adaptation of IT use, limiting the users' capacity to perform adaptation behavior.

The negative relationship between technostress and behavioral adaptation is grounded in the literature regarding technostress. As noted in the broader literature surrounding technostress, role ambiguity can negatively affect users by causing strains, which are the psychological response when individuals perceive their environment's demand to be too high for their resources (Ayyagari et al. 2011). Experiencing strains affects both facets of the benefits of IT use. Strains reduce the users' capability to innovate at work, thus reducing their performance enabled by the use of IT (Tarafdar et al. 2015). They also have a negative effect on satisfaction as they create a negative affect for the user toward the IT.

While certain studies have taken an interest in technostress in the context of IT consumerization, there are scarce studies regarding how IT consumerization technostress affects users' beliefs toward themselves as IT users. Indeed, we have yet to understand how being confronted with technostress in this context affects the beliefs users hold toward themselves as IT users and how this will affect their behavioral adaptations. To address this gap, the second chapter of this thesis aims to adapt SCC to the context of IT use to improve our understanding of how users react when exposed to technostress in the context of IT consumerization. We, therefore, aim to answer the following question in Chapter 2 of this thesis: What is the role of ITSCC in explaining how users adapt to technostress in the context of IT consumerization?

1.2.5.2 User support in IT consumerization

Since IT consumerization is a trend affecting workplaces, there has been interest in the role of organizations in the users' adaptation process. One of the main challenges organizations face regarding IT consumerization is having the resources required to train their users and communicate their organizational policies (Chung et al. 2018; Jarrahi et al. 2017). To address

these issues, certain organizations have implemented systems such as social media management systems that allow them to provide users with suggestion messages on how to adapt their use of IT (Benthaus et al. 2016). However, there are few studies on the effective design of messages communicating organizational policies regarding the use of consumer IT to users.

Understanding the role of SCC in the context of IT use allows for a better understanding of how to communicate organizational policies to users and how they would react. This is because SCC influences individuals' responses to their environment. Indeed, possessing lower levels of SCC makes it harder for individuals to effectively process information, making them more likely to rely more on external advice to guide their behaviors and adapt to their environment (Duan et al. 2021). The level of SCC will also have an effect on the goals they set for themselves. Having a lower level of SCC makes individuals more likely to set goals aimed at preserving their stability while having a higher level of SCC makes individuals more likely to set ambitious goals for themselves (Light 2017). Designing suggestion messages in congruence with the user's goal preference could allow for effective support in their adaptation.

Hence, adapting SCC to this context allows for an explanation of how users react to messages suggesting they adapt their use of consumer IT to organizational policies. The third chapter of this thesis, therefore, aims to answer the following question: What is the role of ITSCC in explaining the effectiveness of messages suggesting adaptations to users.

1.3 Conclusion and further activities

This literature review introduced the context of IT consumerization and the literature on SCC. Our review of the different perspectives on IT consumerization puts forward the importance of the beliefs individuals develop by interacting with consumer IT across different contexts. It

shows that the interaction with IT across different contexts leads users to generate diverse beliefs about themselves as IT users and that users need to adapt themselves and their use when using consumer IT in the workplace. Basing this work on the SCC literature, understanding the clarity of the beliefs that users have toward themselves as IT users would allow us to resolve gaps in the IT consumerization literature. It would allow for the improvement of models explaining how individuals adapt themselves in an IT consumerization context when confronted with technostress and how organizations can better support users in adapting their consumer IT use. Due to the known role of SCC in predicting related outcomes in the broader psychology literature, it is relevant to adapt this concept to the IT use context. Hence, we aim to adapt and operationalize SCC to the IT use context to explain users' adaptation to consumer IT to perform work tasks. Table 1-2 summarizes the three gaps raised in this chapter and the questions we aim to answer in this thesis.

Table 1-2: Summary of gaps and research questions covered in this thesis

Research areas	**Identified gaps**	**Questions**
IT identity and IT self-concept	There are currently no conceptual nor operational definitions relating to the clarity of the organizations of the beliefs that individuals have toward themselves as IT users.	How can we define and measure the clarity of the organization of the beliefs included within IT self-concept of users?
Technostress	There are few studies regarding the relationship between technostress and adaptation in an IT consumerization context.	What is the role of ITSCC in explaining how users adapt to technostress in the context of IT consumerization?
Persuasive communications	There are few studies on effective approaches to communicate organizational policies to users of consumer completing work tasks.	What is the role of ITSCC in explaining the effectiveness of messages suggesting adaptations to users?

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Bridging Chapter 1 and Chapter 2

In the first chapter of this thesis, we presented the current state of the IS literature regarding IT consumerization. We noted the growing interest of this research stream in the multiple beliefs that individuals develop toward themselves as IT users. This led us to identify that there are currently no conceptual nor operational definition of the clarity of the organization of the beliefs that individuals have toward themselves as IT users.

We then showcased the potential utility of adapting the Self-concept clarity (SCC) concept to the IT use context. In psychology, studies show that SCC allows predicting how individuals adapt themselves when faced with stress and the source of information on which individuals will rely to adapt themselves effectively. However, the predictive power of such generic constructs can have limited predictive power on behavior in specific contexts. Due to the specificity of the IT use context, we can better address the questions related to adaptation within an IT consumerization context by defining a context-specific IT self-concept clarity (ITSCC) construct.

More precisely we put forward the potential utility of ITSCC to understand two issues related to the adaptation of users when using consumer IT to complete work tasks. First, we highlighted the need to understand how individuals adapt themselves to the use of consumer IT to complete work tasks while facing technostress associated with the use of those IT. Second, we put forward the need to investigate how organizations can effectively support users in their adaptation process when using IT in the workplace.

In the next chapter, we will provide a conceptual definition and a measurement scale for ITSCC. We will be generating and validating the measurement scale using different consumer IT.

We will also conduct a longitudinal study to answer the research question regarding the adaptation of users facing stress from IT consumerization.

2 Chapter 2: IT self-concept clarity definition and measure

Abstract

Individuals increasingly use the same IT in personal and work contexts, a phenomenon referred to as IT consumerization. Through these interactions with IT across multiple contexts, users accumulate heterogeneous beliefs about themselves as IT users. These beliefs can be organized with varying degrees of certainty as they may be ambiguous and incoherent. It has been shown that the clarity one has in their beliefs can affect how individuals adapt to their environment, and this paper seeks to further understand how individuals' clarity toward themselves as IT users affects their interactions with consumer IT at work. As there are currently no conceptual or operational definitions for individuals' clarity toward themselves as IT users, we address our goal by conceptualizing the IT Self-Concept Clarity (ITSCC) construct to improve the predictive power of models interested in IT consumerization. We develop a conceptual definition for ITSCC and differentiate it from related constructs. We also generate a measurement scale for ITSCC. We validate the scale by performing two studies. We first perform a cross-sectional survey study to determine the scale's validity. We then perform a longitudinal study to test the utility of this scale. This study outlines the role of ITSCC in explaining how individuals adapt themselves while experiencing technostress.

2.1 Introduction

Individuals increasingly use IT, such as smartphones and instant messengers, in both personal and work contexts (Harris et al. 2012b; Junglas et al. 2019). A consequence of this dynamic is that the interactions in the personal context influence interactions in the work context, a phenomenon referred to as IT consumerization (Gregory et al. 2018). Users can benefit from this trend by performing innovative work behaviors due to their positive experiences with those IT (Junglas et al. 2019). Meanwhile, users can also experience technostress from using their consumer IT for work due to the demand they impose on users who see an increase in their responsibilities with these IT compared to using enterprise IT (Ortbach et al. 2013). Such demands have been known to reduce the user's capacity to innovate (Tarafdar et al. 2015).

To further understand IT consumerization, IS research has taken an interest in users' interaction with IT across multiple contexts. The IT identity theory puts forward the argument that due to their interactions with IT across multiple contexts, individuals are likely to integrate the use of IT within their sense of self (Carter and Grover 2015; Carter et al. 2013). Through this process, users encompass their beliefs about themselves as IT users, developing an IT self-concept (Zylka et al. 2015). Even if the use of the IT is important to an individual, the beliefs they develop about themselves as IT users can be positive and negative (Harkin and Kuss 2021). For instance, individuals can feel close to their smartphones as it allows them to perform their tasks and hedonic activities, yet feel that their smartphone makes them adopt time-wasting behaviors when carrying out work tasks (Fullwood et al. 2017).

IS studies have taken an interest in the content of the beliefs individuals develop toward themselves as IT users, including positive and negative beliefs (Janneck et al. 2013; Zylka et al.

2015). However, these studies conceptualize positive and negative beliefs only as distinct constructs and assume that individuals have a clear sense of themselves as IT users. Meanwhile, studies interested in the user's sense of self have argued that individuals can develop incoherent and contradictory beliefs toward themselves as IT users that can be held with varying degrees of certainty (Carter et al. 2018; Harkin and Kuss 2021). The organization of such beliefs would have a low level of clarity.

Investigating the clarity that users have over the organization of their beliefs is important as it plays a key role in explaining how individuals adapt to their environment (Campbell et al. 1996). Notably, individuals with a higher level of clarity over themselves are more likely to address problems directly when responding to stressful situations (Ritchie et al. 2011). Clarity over the self, or the self-concept clarity (SCC), has been defined as the "clarity and coherence that people perceive in their self-concepts and whether their self-aspects are coherent and stable over time" (Campbell, 1990, p. 260). Adapting SCC to the IT use context or conceptualizing an IT self-concept clarity (ITSCC) has the potential to improve our understanding of how individuals adapt to the demand of their environment and benefit from using consumer IT for work.

This study aims to improve our understanding of individuals' beliefs toward themselves as IT users and understand their role in explaining how individuals adapt to IT consumerization, especially when experiencing technostress. More precisely, we aim to answer the following questions:

- What is the ITSCC, and how can we measure it?
- What is the role of ITSCC in explaining how users adapt to technostress in the context of IT consumerization?

To answer our questions, we conceptualize and operationalize ITSCC by adapting the general SCC to the IT use context. Since individuals create specific belief systems for particular contexts, the general self-concept provides poor predictive power when investigating domain-specific outcomes (Bong and Skaalvik 2003). Thus, conceptualizing a domain-specific self-concept allows for a better understanding of individuals' beliefs toward themselves in that domain and their impact on related outcomes, such as performance (Barki 2008; Lent et al. 1997). Hence, we develop a formal conceptualization and measurement tool for individuals' clarity of their beliefs toward themselves as IT users, or the Information Technology Self-Concept Clarity (ITSCC) construct. Operationalizing this concept can improve the predictive power of models interested in the IT consumerization phenomenon.

We evaluate the validity and the utility of the ITSCC scale by performing multiple studies. We first conduct a cross-sectional study to test the validity of our scale and measurement model. We then test the utility of ITSCC by performing a longitudinal study where we integrate ITSCC within a model that explains how individuals perform innovative work behavior when using consumer IT in a context where they experience technostress from using consumer IT. Our findings provide an example of how this new construct can explain how individuals adapt themselves in an IT consumerization context.

2.2 Conceptualizing the IT self-concept-clarity

2.2.1 Background

2.2.1.1 IT self-concept

IT is increasingly central to personal activities and work tasks, leading IT users to develop beliefs toward themselves as IT users (Carter and Grover 2015). Those beliefs are activated when

interacting with IT in personal and work contexts (Piszczek et al. 2016). They hence develop an IT self-concept that is comprised of the self-referred beliefs concerning IT-related skills and traits (Janneck et al. 2013; Langheinrich et al. 2016; Zylka et al. 2015). This includes evaluations of positive traits, such as innovativeness with IT, and negative traits, such as IT anxiety. Furthermore, as individuals interact with different IT, IT-specific self-concepts can be developed. For instance, a user might develop a smartphone self-concept or a Microsoft Excel self-concept. We refer to IT as:

> *A unit of technology (hardware device, software application, or software application environment) that an individual consciously engages with, as an end-user, to produce, store, and communicate information; that could be accessible to that person across time and space; and that may provide breadth of access to others in the person's social world* (Carter and Grover 2015, p. 932).

For instance, a smartphone fits this definition, and a user might activate a self-concept specific to their smartphone use when consciously engaging with this physical device. This definition highlights the importance of the individual's conscious engagement with IT. This is important as users interact with multiple IT that are embedded within one another. For instance, users access the "Facebook" applications while using their smartphones, leading them to activate their "Facebook" self-concept. They might also activate beliefs specific to themselves as a "Facebook" user when consciously using the application on their tablet or the website on their computer. However, users will only activate a specific self-concept associated with the IT they consciously engage with. For instance, a user interacting with their smartphone is not necessarily conscious of engaging with the smartphone operating system while using an application.

2.2.1.2 Clarity of the self-concept

Each self-concept is composed of multiple beliefs, some beliefs might be contradictory. Furthermore, a portion of these beliefs might be held with ambiguity. The clarity of an individual's organization of those beliefs is conceptualized as the SCC (Campbell et al. 1996). The clarity element references a situation where the beliefs composing the self-concept are clearly and confidently defined by the individual (Campbell, 1990). Campbell (1990) defined SCC as (p.260): "Clarity and coherence that people perceive in their self-concepts and whether their self-aspects are coherent and stable over time." A lack of clarity over an individual's self-concept implies that they will experience difficulties in their ability to define themself, yielding a sense of discomfort. Thus, individuals with a lower level of SCC are less likely to rely on their self-concept to establish goals for themselves and more likely to set their goals based on external information (Setterlund and Niedenthal 1993b). Meanwhile, individuals with a higher level of SCC are more likely to set their goals based on their self-concept and rely on internal knowledge to make their decisions (Duan et al. 2021; Guadagno and Burger 2007). SCC is also positively correlated with self-efficacy and self-esteem, as having a well-articulated self is associated with having an understanding of one's strengths, weaknesses and value principles (Campbell et al. 1996; Lewandowski Jr et al. 2010; Spain and Kim 2017). SCC hence provides ground for confidence in an individual's behavior. Such examples show that the organization of the self-concept can impact certain individuals' traits and how they interact with their environment.

While useful, the general SCC relates to the general self-concept, which provides poor predictive power when investigating domain-specific outcomes due to individuals' specific belief systems for different domains (Bong and Skaalvik 2003). To rectify this, we focus on the beliefs

one holds toward oneself in a specific domain, namely as IT user – the IT user self-concept. This allows us to better define the relationship between this new construct and the constructs relevant to the IT use contexts (Barki 2008).

2.2.2 IT self-concept clarity definition development

2.2.2.1 Nature of construct's conceptual domain

Adapting SCC to the IT domain will keep the general property of SCC about an individual's evaluation of the organization's clarity of their self-referred beliefs (Campbell, 1999). Therefore, ITSCC's general property will be an evaluation of the organization of one's beliefs toward oneself as an IT user.

2.2.2.2 Nature of construct's conceptual theme: Attributes

Although SCC is conceptualized with three attributes – coherence, certainty, and stability – stability loses its relevance when adapted to the IT context. This is because SCC was originally conceptualized to apply to the general self-concept, which is at the apex of the self-concept construct hierarchy (Shavelson et al. 1976). The general self-concept is expected to be stable over time, and an unstable general self-concept reflects poor clarity in the organization of one's beliefs (Campbell 1990). However, further down the self-concept hierarchy, constructs become more situation-dependent and are expected to change over time (Bong and Skaalvik 2003; Shavelson et al. 1976). This applies to the IT self-concept due to frequent technological changes over time (Carter and Grover 2015). Indeed, certain IT systems, such as smartphones, are known to be dynamic, and new feature updates are added regularly. Developing new beliefs following interactions with such new features is thus expected. Users with evolving beliefs about themselves as IT users due to the dynamism of their IT use would, therefore, not reflect an

unclear IT self-concept. Indeed, the user can update their beliefs, improving clarity over the self. For instance, a new connectivity feature added to a smartphone could increase a user's certainty in the belief that they are "connected" as a user. In this example, the dynamism of the IT would lead to a change in the IT self-concept and an improved clarity over the IT self-concept, meaning that stability over time cannot be an essential attribute of clarity.

The attributes of certainty and coherence remain relevant in the IT context. We define certainty as the extent to which an individual is confident about their beliefs toward themself as an IT user. For individuals to have high clarity over their IT self-concept, they must clearly articulate their beliefs toward themselves as IT users. Being unable to express such beliefs with certainty would signify that the individual is questioning their beliefs toward themselves as an IT user. The IS literature has argued that individuals express their beliefs toward themselves as IT users with differing degrees of certainty. For instance, studies on computer competencies have shown that individuals will express their beliefs about their ability to use IT effectively with varying degrees of certainty (Dickhäuser 2001). This also applies to IT-user traits, which play a role in determining the IT interactions. For instance, a smartphone user might utilize varying degrees of certainty to express that they are addicted to their smartphone, reflecting poor clarity of their IT self-concept (Harkin and Kuss 2021). Hence the evaluation of certainty is a necessary attribute of ITSCC.

In addition, the individual's beliefs toward themself as an IT user must be organized with coherence to reflect a high level of ITSCC. We define coherence as the extent to which an individual's beliefs toward themself as an IT user are consistent with one another. Individuals with a higher level of self-concept coherence will lucidly perceive how their beliefs fit with one

another. Individuals possessing low coherence over their self-concept will reflect it by having unresolved, excessive, and conflictual views over their selves (Bhar 2005; Bhar and Kyrios 2007). The IS literature has shown examples where individuals hold conflictual views toward themselves as IT users, reflecting low coherence. For instance, a smartphone user might find that the device makes them more knowledgeable by giving them access to information, but also find themself distracted when using this device (Fullwood et al. 2017). The incoherence between these beliefs reflects a lack of clarity regarding the organization of the beliefs that the individual holds toward themself as an IT user. We hence designate the evaluation of coherence as a necessary attribute of ITSCC.

The evaluation of certainty and coherence are complementary and necessary to reflect ITSCC. Based on these attributes, we define ITSCC as: **the extent to which an individual's beliefs toward themself as an IT user are defined with certainty and coherence.**

Our definition of ITSCC is IT agnostic. Our interest is regarding the extent to which the beliefs individuals have developed toward themselves as a user of this IT are clearly organized. While users are likely to develop beliefs regarding the different IT with which they consciously interact, ITSCC does not measure the content of those beliefs or how they relate to specific features of the IT. ITSCC can hence be measured independently of the nature of the IT. This aligns with other constructs focusing on the user's self rather than technology characteristics (Carter et al. 2020a). Hence, our definition of ITSCC would apply to the different IT fitting in the definition of IT stated in the previous section.

2.2.2.3 Nature of construct's conceptual theme: dimensionality

Both the certainty and coherence attributes relate to the theme of clarity as both allow determining whether an individual's beliefs toward themself as an IT user are clearly organized. However, removing either of these attributes would reduce the domain of the ITSCC construct. This is because certainty and coherence constitute distinct aspects of this construct. A user could have coherent beliefs toward themself as an IT user yet lack confidence over these beliefs. Similarly, a user could have incoherent beliefs toward themself as an IT user yet be certain of each conflicting belief. However, beliefs held coherently are more likely to be held with certainty and less likely to be questioned, which implies that these dimensions are manifestations of ITSCC. Hence, we conceptualize ITSCC as a second-order and multidimensional construct with two reflective dimensions of certainty and coherence, which are first-order constructs.

Based on our multidimensional conceptualization of ITSCC, a user with a higher level of ITSCC would have coherent beliefs and hold these beliefs with certainty. It is to be noted that the valence of beliefs in a high ITSCC can range from negative to positive. For instance, a smartphone user being confident in the belief that they are an effective and accessible smartphone user would have high ITSCC, just as one being confident and coherent in their belief of being incompetent and distracted will have high ITSCC. To the opposite, a user holding the conflicting beliefs they are competent and distracted with low confidence would have low ITSCC. These ideal examples of high and low ITSCC are illustrated in Figure 2-1, and we summarize the factors considered for our definition of ITSCC in Table 2-1.

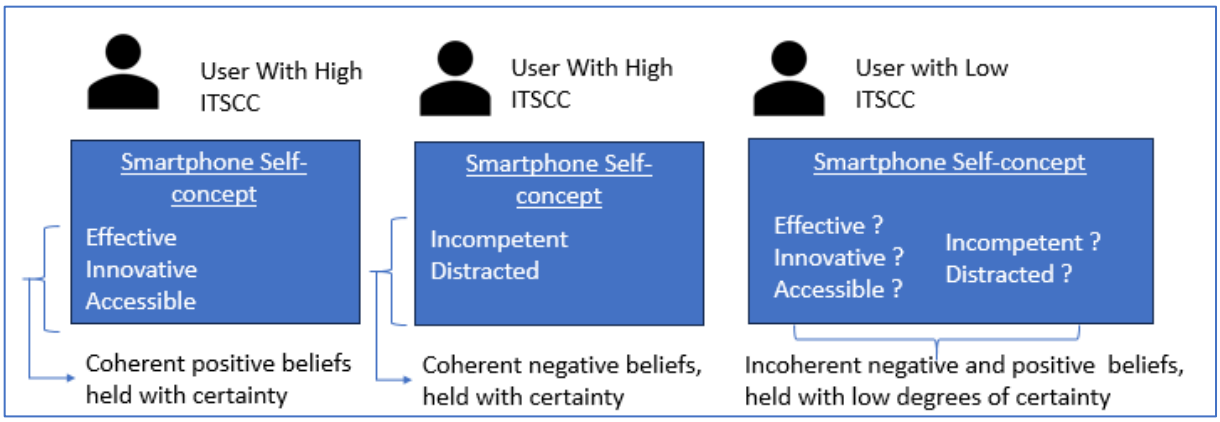

Figure 2-1: Illustration of high and low ITSCC

Table 2-1: IT self-concept clarity construct definition factors

Factors	**Consideration**	**Instantiation**
Prior research related to the focal construct	Review of literature on related constructs	IT self-concept, self-concept clarity, computer self-efficacy and IT identity.
Nature of construct's conceptual domain	Entity	Individual IT user.
	General property	The evaluation of the organization of one's beliefs toward themself as an IT user.
Conceptual theme	Attributes	Evaluation of the certainty (1) and coherence (2) of one's beliefs toward themself as an IT user.
	Dimensionality	Clarity is the higher-order level construct composed of the two following dimensions as the first-order constructs: Certainty and Coherence.
Definition		The extent to which an individual's beliefs toward themself as an IT user are defined with certainty and coherence.

2.2.3 Differentiating ITSCC from IT domain-specific constructs

ITSCC differentiates itself from other constructs that relate to the self in the IT use context, such as computer self-efficacy (CSE). CSE is defined as "A judgment of one's capability to use a computer" (1995, p. 192). This judgment's dimensions are the magnitude or the degree to which their conviction allows them to take on difficult computing tasks and the degree to which they

are convinced of their capabilities. This construct is a goal-oriented belief toward the self about a specific computing domain rather than an evaluation of the organization of the beliefs. While our definition of ITSCC includes certainty as one of its dimensions, this certainty relates to the extent to which they hold the beliefs rather than confidence in the successful usage of IT. For example, one individual might have low confidence in their ability to use analytical software to solve a task, reflecting a low CSE, but hold with certainty the belief that they cannot use this software and need help to use it, reflecting a high ITSCC.

Carter and Grover (2015) adapted the concept of identity to the domain of IT usage to explain and predict the enhanced usage of IT artifacts. They defined IT identity as: "The extent to which an individual views use of an IT as integral to his or her sense of self" (Carter and Grover 2015, p. 932). IT identity stands as an evaluation regarding the extent to which a user's self has been expanded by an IT (Carter and Grover 2015). When developing a higher IT identity, the individuals will expand their original self-concept by adding to their beliefs the capabilities afforded by IT.

IT identity differentiates itself from ITSCC as it evaluates whether the self-concept has been expanded, while ITSCC will evaluate whether the beliefs are held with certainty and are coherent with one another. For instance, while IT identity will evaluate if smartphone use is an integral part of the user's self-concept, ITSCC will evaluate if the individual's beliefs toward themself as a user of smartphones are clearly defined. The certainty evaluation attribute differentiates ITSCC from IT identity. An individual might feel that their smartphone use is not part of how they define themself and be certain that they are efficient at completing tasks with their smartphone (Carter et al. 2018). The user would have a low IT identity and a high ITSCC.

The coherence evaluation attribute also differentiates ITSCC from IT identity. Expanding the self through a relationship makes it possible for individuals to add negative beliefs to their self-concept (Mattingly et al. 2014). Hence, a user's beliefs toward themself as an IT user might be contradictory. For instance, some users of smartphones have been known to describe themselves as efficient at completing tasks yet being easily distracted (Gill et al. 2012). One user might have a high IT identity as they rely on their smartphone to complete tasks, yet can also have integrated the "distracted" and "efficient" beliefs as part of their expanded self. This conflict between the two beliefs would reduce the ITSCC, resulting in a high IT identity and low ITSCC. These examples show the unique importance of certainty and coherence in the organization of the belief in discriminating between ITSCC and IT identity. These arguments showing that ITSCC is distinct from these previously conceptualized constructs are summarized in Table 2-2.

Table 2-2: Summary of related IS constructs and their key differentiation from ITSCC.

Construct	**Definition**	**Key difference with ITSCC**
IT self-concept	An individual's self-referred beliefs concerning IT-related skills and traits (Janneck et al. 2013).	Evaluates the content of the beliefs rather than their organization.
Computer self-efficacy	"A judgment of one's capability to use a computer" (Compeau and Higgins 1995, p. 192).	Is a goal-oriented evaluation of the belief on one's capability to use a computer rather than an evaluation of the organization clarity of multiple beliefs.
IT identity	"The extent to which an individual views use of an IT as integral to his or her sense of self" (Carter and Grover 2015, p. 932).	Evaluates the extent to which a user has integrated the use of an IT within their sense of self rather than the organization of the beliefs within their sense of self.

Since IT identity can lead to integrating beliefs within the IT self-concept, it can impact ITSCC. However, as highlighted in the previous paragraph, individuals can develop a strong IT identity toward an IT while integrating beliefs that are either clearly or unclearly organized within their IT self-concept. Therefore, whether the impact of IT identity on ITSCC is positive or negative

depends on whether the beliefs integrated within the IT self-concept are coherent with other beliefs and whether they improve individuals' certainty over the beliefs within their IT self-concept.

2.3 Scale development

In this section, we develop a measuring instrument for ITSCC. One of the characteristics of ITSCC's conceptual domain is that it involves the evaluation that individuals make toward the organization of their beliefs toward their selves as IT users. This means that self-reporting stands out as the only way of measuring this construct (Chan 2009). While the reliability of self-reporting measures has been criticized, it is the only way to capture certain information (Podsakoff and Organ 1986).

SCC is measured using a scale developed by Campbell et al. (1996). A cosmetic adaptation of this scale would not adequately measure ITSCC. First, the SCC scale includes items embedded with SCC attributes, including stability over time, which we have excluded from ITSCC's domain. Furthermore, since the SCC evaluates the organization of the general self-concept, it was assumed that individuals attributed importance to this self-concept. However, this assumption does not apply to subject-specific self-concepts, such as the IT self-concept, to which certain individuals may not attribute much importance (Marsh 1994). Therefore, certain items from the SCC scale, such as "I spend a lot of time thinking about the kind of person I am." would be biased if cosmetically adapted to the context of IT use. A user who does not attribute much importance to their IT self-concept would not spend much time thinking about themselves as an IT user, even if their beliefs are not clearly organized.

Instead, to evaluate the different dimensions of ITSCC, we adapt a scale for each dimension of ITSCC. We adapt the self-evaluation certainty scale (DeMarree et al. 2011) to measure the certainty dimension of ITSCC. Likewise, to measure the coherence dimension of ITSCC, we adapt the subjective ambivalence scale, which measures the lack of coherence in self-referred beliefs (DeMarree et al. 2011; Priester and Petty, 1996). The coherence is measured using a reverse-coding scale, which is in line with the measurement of general SCC (DeMarree and Bobrowski 2017). We adapted these scales to the IT context. Four Ph.D. students participated in a card sorting exercise to ensure that items were mapped on the appropriate dimension (Moore and Benbasat 1991). The measurement items for ITSCC are shown in Table 2-3. To validate our measure, we performed a cross-sectional survey and a longitudinal survey. The following sections report on the findings from these different activities. We summarize our activities in Table 2-4.

Table 2-3: ITSCC scale, using the smartphone and WhatsApp as exemplar IT artifacts.

Item no	**Item**	**Answer options**
ITSCC - Certainty		
ITSCCCE1	How confident are you of your thoughts and feelings toward yourself as a (smartphone/WhatsApp) user?	7 points Likert scale, from "Very little" to "Very much"
ITSCCCE2	How certain are you of your thoughts and feelings toward yourself as a (smartphone/WhatsApp) user?	
ITSCCCE3	How sure are you that your thoughts and feelings toward yourself as a (smartphone/WhatsApp) user are accurate?	
ITSCC - Coherence		
ITSCCCO1	To what extent are you conflicted when you think about yourself as a (smartphone/WhatsApp) user? *	7 points Likert scale, from "Very little" to "Very much"
ITSCCCO2	To what extent are your thoughts and feelings toward yourself as a (smartphone/WhatsApp) user one-sided? *	
ITSCCCO3	To what extent is your reaction toward yourself as a (smartphone/WhatsApp) user confused? *	
* = Reverse-coded items		

Table 2-4: Description of measure validation activities

Activity	Purpose	Outcome
Study1: Cross-sectional survey	Validate the ITSCC scale's internal consistency, reliability, dimensionality, nomological validity, and goodness of fit.	406 valid responses were collected from participants assigned to either a smartphone or WhatsApp condition. They allowed us to assess the validity of the ITSCC scale.
Study2: Longitudinal Survey	Assess the utility of ITSCC.	762 valid responses were collected from participants assigned to either a smartphone or WhatsApp condition. They allowed us to assess the role of ITSCC in explaining innovative work behaviors when experiencing technostress.

2.3.1 Study 1: Cross-sectional survey

2.3.1.1 Pre-test

We first performed a pre-test to evaluate the clarity of our questionnaire. To increase trust in the generalizability of our scale to consumer IT, we developed two versions of our survey using two different contextual IT. Since ITSCC aims to improve the predictive power of models taking an interest in interactions with IT in multiple contexts, including work and personal use, we chose contextual IT artifacts known to be used across these contexts. We aim to show that ITSCC applies to diverse IT artifacts, whether they have a broad or narrow array of features. It has been put forward that users can integrate within their sense of self IT with a broader and a narrower array of features (Carter et al. 2020b). We aim to put forward that the certainty and coherence in the organization of those beliefs are relevant in both cases and can vary for an IT with a broad array of features and an IT with narrower features. While interacting with a broader array of features would make users more likely to develop a larger array of beliefs toward themselves, a smaller number of beliefs toward the self can still be held with varying levels of certainty and coherence. Therefore, we chose one artifact with a broad array of features and one with a narrower array of features.

The first contextual IT is the smartphone. Smartphones have been used to study IT identity as an exemplary IT possessing a broad array of features (Carter et al. 2020a; Carter et al. 2020b). Smartphones are also used in multiple contexts, including for personal tasks, hedonic activities, and work (Middleton et al. 2014). The second contextual IT is the instant messaging application "WhatsApp." This application has a narrower array of features than smartphones, as it limits itself to networking and communication. WhatsApp is known to be used across multiple contexts, including hedonic activities and work (Matassi et al. 2019). WhatsApp has notably been used in user behavior studies (Dhir et al. 2019).

To perform our pre-test, we recruited participants using the Prolific Academic microtask platform (Prolific.com). Samples from such platforms have been known to yield results representative of the general population (Peer et al. 2017; Steelman et al. 2014). While Prolific.com is relatively new compared to platforms such as Amazon Mechanical Turk, it has recently been used in the IS field (Adam et al. 2020; Cao and Belo 2023; Harmon et al. 2024). Our population of interest interacts with the IT of interest on a regular basis across the personal and work context. Therefore, only full-time employees over 18 years old who were using WhatsApp and smartphones for work and for personal purposes were invited to participate. Furthermore, due to possible concerns about the honesty of participants on platforms, we filtered participants based on reputation, only inviting participants with a submission-acceptance rate of over 95% (Peer et al. 2014). The survey was open to participants from all geographical regions. We compensated participants using the platform's recommended hourly monetary pay rate.

We invited 60 participants to complete the questionnaire for this pre-test. Participants were randomly assigned to either the smartphone condition or the WhatsApp condition.

Participants mainly stated that the questions were straightforward and easy to understand. Some participants mentioned a need to clarify the instructions for answering the ITSCC scale. We adjusted the instructions to facilitate the participants' understanding.

2.3.1.2 Cross sectional survey participants

Table 2-5: Demographics for Study 1

		Smartphone condition		**WhatsApp condition**	
Variable	**Value**	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Gender	Female	111	54.68	90	44.33
	Male	90	44.33	113	55.67
	Other	2	0.99	0	0
Age Group	20 and under	0	0	5	2.46
	21-30	99	48.76	96	47.29
	31-40	65	32.02	64	31.53
	41-50	31	15.27	25	12.32
	51-60	7	3.45	12	5.91
	61 and above	1	0.49	1	0.49
Education	Bachelor's Degree	85	41.87	100	49.26
	Graduate Degree	73	35.96	73	35.96
	High School	38	18.72	26	12.81
	Some High School	1	0.49	1	0.49
	Trade School	6	2.96	3	1.48
Location	Africa	40	19.70	47	23.15
	Asia	2	0.99	1	0.49
	Europe	136	67	140	68.96
	North America	11	5.42	9	4.43
	Other	6	2.96	2	0.99
	South and Central America	8	3.94	3	1.48

We conducted a cross-sectional survey study using the same two contextual IT artifacts as in the pre-test. We recruited 440 participants from Prolific.com. We used the same screening questions as our pre-test while excluding participants from our pre-test. Participants were

compensated using the platform's recommended hourly pay rate. Once again, we randomly assigned each participant to either the smartphone or WhatsApp condition. After removing incomplete answers, 203 answers remained in each condition. The demographics of our participants are displayed in Table 2-5.

Table 2-6: First order constructs principal component analysis for Study 1

	Smartphone condition				**WhatsApp condition**			
Item no	**Mean**	**SD**	**Factor Loading**	**CA**	**Mean**	**SD**	**Factor Loading**	**CA**
ITSCC - Certainty								
ITSCCCE1	6.23	0.88	0.92	0.92	5.89	1.15	0.90	0.93
ITSCCCE2	6.17	0.92	0.95		5.88	1.1	0.97	
ITSCCCE3	5.98	1.08	0.84		5.8	1.11	0.84	
ITSCC – Coherence								
ITSCCCO1	5.32	2.01	0.82	0.83	5.54	1.76	0.91	0.79
ITSCCCO2	4.78	1.86	0.74		4.97	1.64	0.69	
ITSCCCO3	5.76	1.7	0.83		5.93	1.49	0.64	
SD= Standard deviation, CA= Cronbach's Alpha.								

2.3.1.3 Principal component analysis

We first carried out a principal component analysis (PCA) for each of the first-order constructs of the ITSCC scale. The results are displayed in Table 2-6. For both dimensions, all items met the recommended level of 0.7 (Carmines and Zeller 1979), except for ITSCCCO2 and ITSCCCO3 items in the coherence dimension of the WhatsApp condition, with values of 0.69 and 0.64, respectively, which is still considered significant (Netemeyer,2003). For the certainty first-order dimension, the Cronbach's alpha (CA) value is 0.92 for the smartphone condition and 0.93 for the WhatsApp condition. For the coherence first-order dimension, the CA value is 0.83 for the smartphone condition and 0.79 for the WhatsApp condition. For both constructs and both conditions, these results are greater than the recommended threshold of 0.7 (Cortina 1993).

These results confirm the reliability and the internal consistency of our set of indicators at the construct level for our first-order constructs.

2.3.1.4 Confirmatory factor analysis

Table 2-7: Confirmatory factor analysis factor loading

	Smartphone condition		**WhatsApp condition**	
Item no	**ITSCC - Certainty**	**ITSCC - Coherence**	**ITSCC - Certainty**	**ITSCC - Coherence**
ITSCCCE1	**0.92**	0.04	**0.89**	0.15
ITSCCCE2	**0.95**	0.04	**0.96**	0.15
ITSCCCE3	**0.83**	0.14	**0.83**	0.16
ITSCCCO1	0.13	**0.81**	0.20	**0.87**
ITSCCCO2	-0.05	**0.76**	-0.02	**0.73**
ITSCCCO3	0.09	**0.82**	0.26	**0.62**

Second, we carried out a confirmatory factor analysis (CFA) analysis. The results displayed in Table 2-7 show that all items loaded at a very significant level on the appropriate dimension for both conditions, without cross-loading, confirming the reliability of our set of indicators.

We then evaluated the measurement fit of our multidimensional model, following Craig et al. (2019) validation of a multidimensional scale. The CFA provides the goodness of fit indicators for a measurement model with two correlated factors (ITSCCModel1), a model with two uncorrelated factors (ITSCCModel2), and a unidimensional model (ITSCCModel3). The results are displayed in Table 2-8.

Table 2-8: Confirmatory factor analysis model comparison

Indicator (Advised Threshold)	**Chi-Square**	**AGFI** (> 0.90)	**GFI** (> 0.95)	**CFI** (> 0.90)	**SRMR** (< 0.08)	**RMSEA** (< 0.08)	**AVE** (> 0.5)
Smartphone condition							
ITSCCModel1	17.78	**0.927**	**0.972**	**0.987**	**0.049**	**0.077**	**0.66**
ITSCCModel2	25.09	**0.925**	**0.961**	**0.982**	0.092	**0.079**	**0.65**
ITSCCModel3	254.6	0.302	0.701	0.680	0.237	0.366	0.185
WhatsApp condition							
ITSCCModel1	17.77	**0.931**	**0.974**	**0.987**	**0.069**	**0.078**	**0.67**
ITSCCModel2	60.92	**0.837**	0.915	0.934	0.187	0.149	**0.63**
ITSCCModel3	180	0.464	0.770	0.772	0.186	0.305	0.325

Note: AGFI =Adjusted goodness of fit index, GFI = Goodness of fit index, CFI = Confirmatory fit index, SRMR = Standardized root mean squared residuals, RMSEA = Root mean square of error approximation, AVE = Average variance extracted. Data in bold meet the advised threshold.

Results indicate that ITSCCModel1 has the highest fit with our data with a root mean square error of approximation (RMSEA) of 0.077 for the smartphone condition and 0.078 for the WhatsApp condition, both under the advised threshold of 0.08 (Browne and Cudeck 1992). This model has a standardized root mean squared residuals (SRMR) of 0.049 for the smartphone condition and 0.069 for the WhatsApp condition, both under the advised threshold of 0.08 (Bollen and Ting 2000). ITSCCModel1 is the only model meeting the advised threshold for both indicators in both conditions. These results indicate a superior fit for the model with two correlated factors compared to other models. This indicates that the construct is indeed multidimensional (Craig et al. 2019). Furthermore, the average variance extracted (AVE) of 0.806

for the smartphone condition and 0.823 for the WhatsApp condition are above 0.5, indicating that the item set is valid at the construct level (Fornell and Larcker 1981).

Furthermore, the other indicators of a good fit for ITSCCModel1 pass the threshold advised within the literature (Hooper et al. 2008). The Goodness of Fit Index (GFI) of 0.972 for the smartphone condition and 0.974 for the WhatsApp condition were above 0.95. The Adjusted Goodness of Fit Index (AGFI) of 0.927 for the smartphone condition and 0.931 for the WhatsApp condition were above 0.90. The Confirmatory fit index (CFI) of 0.987 for the smartphone condition and 0.987 for the WhatsApp condition were above 0.90. These results indicate the goodness of fit of ITSCCModel1.

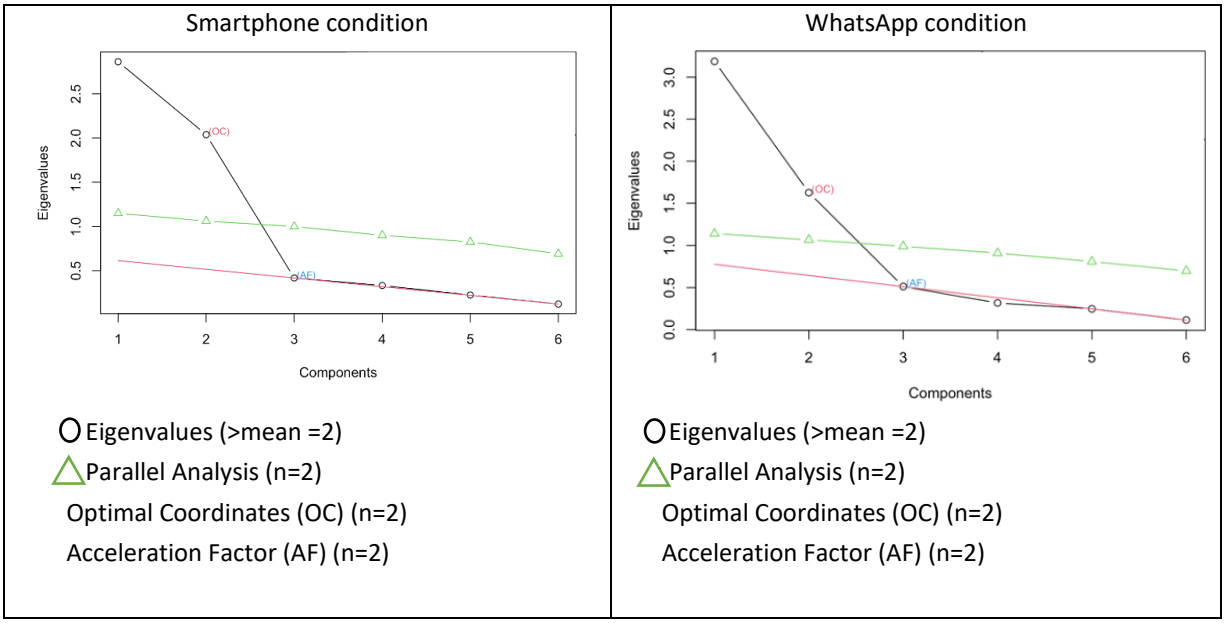

Figure 2-2: Scree plot for the smartphone and WhatsApp conditions

To further confirm the dimensionality of our scale, scree plots were computed for both conditions (Netemeyer et al. 2003). Scree plots allow for a visual indication of the factor structure. We display the plots in Figure 2-2. Both plots showed that a two-factor model is more likely to be optimal, which is congruent with our two-dimensional conceptualization of the ITSCC.

The results from this cross-sectional survey allow for a validation of the ITSCC scale and its measurement model. In the next section, we will utilize this validated scale to test its utility. This is done by performing a longitudinal study.

2.3.2 Study 2: Longitudinal study

We conducted a second study to show the utility of ITSCC in explaining users' behaviors in the context of IT consumerization. IT consumerization has been defined as the process through which the use of IT in the personal context influences user behaviors in the work context (Gregory et al. 2018). More precisely, we take an interest in the context of IT consumerization, where individuals consume IT for personal purposes and use the same IT to complete their work tasks (Junglas et al. 2019). We will refer to these IT as "consumer IT."

The outcome of interest in this study is the "Innovative consumer IT work behaviors". Innovative behaviors stand for developing, promoting, and enacting new ideas aimed at improving performance (Janssen et al. 2004). We adapt this definition to our context by focusing on innovative behavior with consumer IT. Innovative consumer IT work behaviors are one of the main outcomes of interest in the IT consumerization stream due to their association with individual and organizational performance benefits from IT consumerization (Junglas et al. 2019). Innovative consumer IT work behaviors occur as using consumer IT for work allows users to adjust the fit between their use of consumer IT and the requirements of their work tasks. This is enabled by users' experience with their consumer IT, allowing them to find new approaches to performing tasks using these IT. This leads to improvement in users' work tasks performance in an IT consumerization context (Junglas et al. 2019). Since ITSCC was conceptualized to better explain

how users benefit from IT consumerization, it is of interest to understand the role of ITSCC in predicting this outcome.

Since ITSCC is influenced by users' interactions with IT, we study the role of ITSCC in predicting innovative consumer IT work behaviors by further understanding the relationships between these constructs and technostress. Technostress has been defined as the appraisal that users make toward their environment when the use of IT creates demand exceeding the user's resources (Ayyagari et al. 2011). Studies on the use of enterprise IT have shown technostress to be an antecedent having a negative relationship with innovative behaviors (Tarafdar et al. 2015). In this study, we investigate this relationship in the context of the use of consumer IT, as using consumer IT for work can also generate demands for users (Ortbach et al. 2013). Several aspects of the use of consumer IT for work have been identified as sources of technostress.

First, the use of consumer IT to complete work tasks is associated with an increased workload. Consumer IT are more accessible as they are available for users at home. This enables users to perform their work tasks with greater flexibility in terms of use and schedule and, therefore, to take on larger workloads compared to using enterprise IT (Doargajudhur and Dell 2019a). However, certain consumer IT users find that this increased workload exerts additional demands, increasing their stress levels (Yin et al. 2022). This work overload, hence, is a stressor associated with the use of consumer IT for work.

Furthermore, the use of consumer IT for work makes users responsible for learning how to use the IT for work (Köffer et al. 2014). This responsibility is seen as an increase in the users' workload as they must adapt themselves within a context where the organization does not necessarily provide the resources to support them (Ortbach et al. 2013). Users might perceive

the complexity associated with learning about the use of their consumer IT for work as an additional demand.

Lastly, since the use of consumer IT is associated with the possibility of completing work tasks in their home setting and that they must learn about the IT on their own time, consumer IT use may lead to work-to-life conflicts (Köffer et al. 2015a). For instance, this can lead users to complete work tasks using consumer IT when their family is expecting them to spend time with them. Users can hence experience situations where the work demand created by their use of consumer IT creates tensions with their personal responsibilities and needs (Mazmanian et al. 2013). For these reasons, users are likely to experience technostress when using consumer IT.

Organizations can, however, enact policies to reduce the emergence of technostress. It was indeed shown, by studies regarding enterprise IT, that organizations can inhibit the emergence of technostress for users by better supporting the use of IT (Tarafdar et al. 2015). Studies in the context of IT consumerization have also shown that supporting users to complete work tasks using consumer IT allows workers to better manage the demands from their tasks (Doargajudhur and Dell 2019a). Hence, including this organizational variable in our model is pertinent.

2.3.2.1 Study model

We adapt the relationships outlined by Tarafdar et al. (2015) to explain the mediating role of technostress between organizational support and innovative behaviors in the context of IT consumerization. We then extend this model by integrating hypotheses regarding the role of ITSCC.

2.3.2.2 Adapting the original model to consumerization

The technostress associated with the use of consumer IT is problematic as it can impede innovative consumer IT work behaviors. As it was shown in the context of enterprise IT use, this would be because the excessive demands created by the stressors associated with the use of IT for work lead users to give a low priority to improving their IT use skills, leading them to use IT mechanically and repetitively to complete a task rather than making efforts to improve their performance (Tarafdar et al. 2015). Processing such demands regarding the use of consumer IT may deplete users' cognitive resources (Ortbach et al. 2013). This diminishes the availability of cognitive resources for users' ability to complete tasks innovatively. Basing our research on previous studies on technostress, we hence posit that:

H1: A higher level of consumer IT technostress is associated with a lower level of innovative consumer IT work behavior.

However, having the perception that their organization supports their use of consumer IT can inhibit the emergence of consumer IT technostress. Perceived organizational support for IT consumerization refers to the extent to which users believe that their Consumer IT use behaviors are valued by their organization (Bautista et al., 2018). We note that perceived organizational support differentiates itself from the permission to use consumer IT, which has been found to have no significant positive effect on IT consumerization behaviors in previous studies (Jungals et al. 2022).

An organization showcasing its support for the use of IT by facilitating the employee's involvement with this IT can inhibit the emergence of stressors by easing the demands associated with the use of this IT (Tarafdar et al. 2015). Users who perceive their use of consumer IT is

valued will be encouraged to perform work tasks by integrating these ITs within their workflow (Tarafdar et al. 2015). Using consumer IT to complete work tasks will make users more likely to situate the use of this IT within their role. Therefore, perceived organizational support for consumer IT should provide users with a greater sense of confidence in their capabilities to autonomously respond to the demands associated with using these IT to complete work tasks (Doargajudhur and Dell 2019). This consequence of a higher perceived organizational support for consumer IT should inhibit the emergence of consumer IT technostress. Hence, we posit that:

H2: A higher level of perceived organizational support for consumer IT use will be associated with a lower level of consumer IT technostress.

2.3.2.3 Expanding the model with ITSCC

Integrating ITSCC in this study model can bring further understanding regarding the mechanism surrounding the relationships between consumer IT technostress and innovative consumer IT work behaviors. We situate ITSCC as a dynamic IT-specific trait that can impact behavior and be affected by environmental factors. Dynamic IT-specific traits, such as IT mindfulness, are known to be malleable as they are affected by users' experience with IT and managerial interventions (Thatcher et al. 2018).

Perceived organizational support for consumer IT to perform work tasks should be associated with a higher level of ITSCC. This is because being in a supportive environment where agents clearly communicate their position allows individuals to increase clarity over themselves as it allows them to better reflect on their beliefs and better articulate them (Van Dijk et al. 2014). For instance, individuals supported in using their smartphone for work will be more likely to better articulate their beliefs toward themselves as smartphone users and how they fit in their

roles within the organization, increasing the coherence between them. For example, working in an environment where using smartphones for work is valued would make an employee more likely to articulate how being innovative and efficient with their smartphone brings coherent and valued beliefs. Furthermore, being in such an environment where what is valued is clearly communicated, users would be more comfortable reflecting on their beliefs, allowing them to dissipate doubts and increase certainty toward these beliefs and how they fit with their roles. Hence, organizations supporting the use of consumer IT are likely to strengthen the ITSCC of users. We hence posit that:

H3: A higher level of perceived organizational support for consumer IT use will be associated with a higher level of ITSCC.

Meanwhile, consumer IT technostress can have a negative effect on ITSCC. This is because stressors are demands that can be unexpected, leading individuals to question their beliefs about themselves and can carry conflicting demands leading individuals to perceive contradictions in their sense of self (Lee-Flynn et al. 2011). Hence, experiencing consumer IT technostress may lead users to question their beliefs about themselves as IT users, reducing their certainty in their beliefs. For instance, an instant messaging application user feeling overloaded from communication and unable to keep up with conversations due to their use of this application may question the belief that they are "responsive" as a user. In addition, a user finding that their use of their consumer IT for work is creating work-home conflict is likely to find that their use of this IT makes them connected at work yet disconnected from their home, creating incoherent beliefs about themselves as an IT user. Hence, users experiencing such stressors are likely to develop incoherent beliefs toward themselves as IT users, such as being connected yet

disconnected. Whether the individuals have an IT self-concept composed mostly of positive beliefs or an IT self-concept composed of negative beliefs, facing new demands and potentially integrating new beliefs destabilizes the current perception of themselves as an IT user. These dynamics and the examples we provided are coherent with findings from the SCC literature that experiencing stressful situations leads individuals to challenge their view of themselves, decreasing the clarity they have toward their self-concept (Ritchie et al. 2011). We hence posit that:

H4: A higher level of consumer IT technostress will be associated with a lower level of ITSCC.

Maintaining a high ITSCC level should enable users to perform innovative work behaviors with their consumer IT. Indeed, possessing a higher level of clarity over the self-concept allows individuals to better understand their environment and how objects can be utilized as resources in order to reach their personal goals (McIntyre et al. 2014). For instance, a smartphone user who is certain of their connectedness with their smartphone is more likely to find new ways to connect with their co-workers when using their smartphone for work. Meanwhile, a user with a lower level of certainty toward their connectedness is less likely to engage in behaviors in coherence with this trait. Furthermore, a smartphone user whose beliefs are organized with coherence is more likely to understand how this IT can be used in a manner that fits with those beliefs. Contrarily, a user with beliefs organized with a lower level of coherence is less likely to be able to figure out how the IT could be used in a fashion fitting their sense of self. This would be consistent with the finding that having a lower clarity over their sense of self makes individuals more likely to only provide superficial engagements when addressing issues (Thomas and Gadbois 2007).

Hence, users maintaining a higher level of ITSCC are more likely to better understand how to utilize their consumer IT as a resource to complete their work and find new ways to perform their tasks more effectively. We hence posit that:

H5: A higher level ITSCC will be associated with a higher level of innovative consumer IT work behavior.

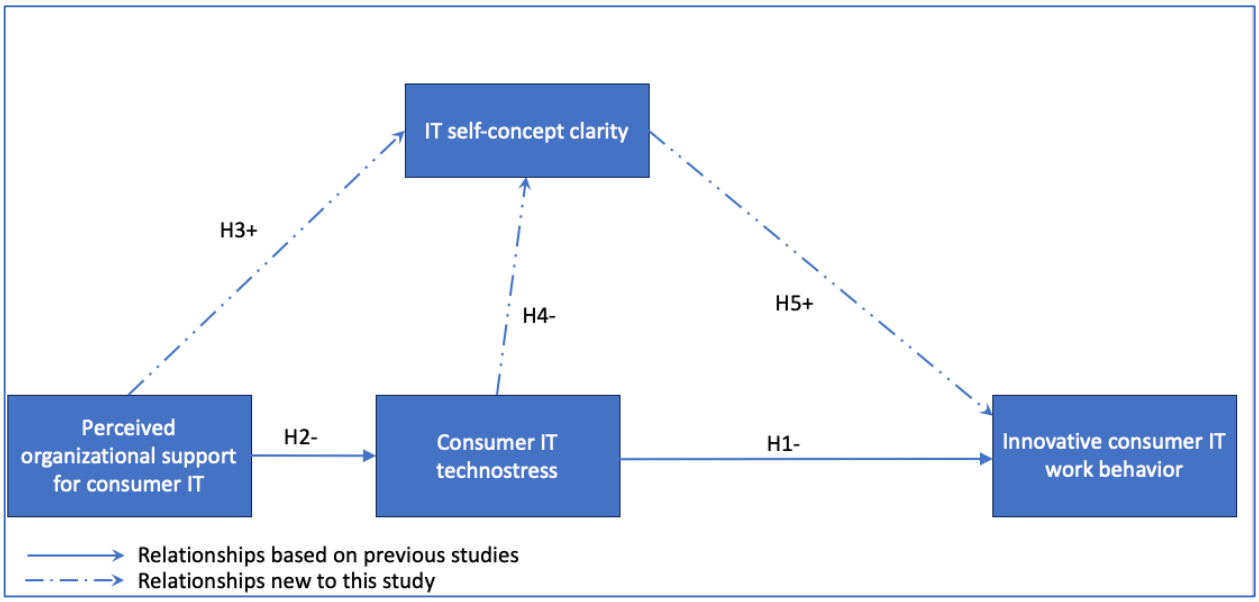

Figure 2-3: Study 2 research model

The model, featured in Figure 2-3, implies that responses to consumer IT technostress affects both a user's beliefs toward themself and their behaviors. How it affects their beliefs will determine how it affects their innovative consumer IT work behaviors. Maintaining a high level of ITSCC while experiencing consumer IT technostress will enable users to perform innovative consumer IT work behaviors.

This is coherent with the SCC literature, which suggests that stressors can reduce clarity over the self-concept but that maintaining a higher level of SCC will enable individuals to adapt themselves to their stressful environment (Lee-Flynn et al. 2011; Ritchie et al. 2011). This would,

therefore, validate the argument that ITSCC effectively improves models predicting how users will be able to respond to stressful situations in the context of IT consumerization.

In this second study, we use measures validated in the first study and adapt measures from previous IS studies. This includes the following variables: age, gender, duration of consumer IT use, frequency of consumer IT use, and experience with the consumer IT (Junglas et al. 2019; Junglas et al. 2022). Our survey also includes a marker variable to assess the influence of common method bias.

2.3.2.4 Data collection measure and approach

In this study, we adapt measures from previous IS studies and measures developed and validated in this paper. We measure consumer IT technostress, innovative consumer IT work behaviors, and perceived organizational support for consumer IT by adapting previously used scales to our context (Lee et al. 2014; Moqbel et al. 2021; Tarafdar et al. 2015). We measured ITSCC using the scale developed and validated in this paper. We also collected data regarding the participants' demography and technology use. Finally, we used the marker variable approach to assess the presence of Common Method Bias (CMB). This approach is to include a theoretically unrelated variable within the study and has been previously used in IS longitudinal studies (Lowry et al. 2017). We used the perception of music ability variable in our survey for this purpose (Hash 2017). Measure items for each construct, other than ITSCC, can be found in Appendix 1.

We performed a longitudinal study to test our model. We gathered responses in two stages, three weeks apart. A period of three weeks apart was selected as it has been previously used in longitudinal research to study IT consumerization about concepts close to ITSCC, such as IT identity (Carter et al. 2020a). We followed the recommendation to separate the data collection

between beliefs and behavioral variables in different stages to reduce CMB (Kim and Malhotra 2005). We collected data regarding the belief variables of consumer IT technostress, ITSCC, perceived organizational support for consumer IT use, and controls regarding the participants' demographics in the first collection stage. In the second stage, we collected data regarding innovative consumer IT work behavior, the marker item construct, and the IT use information. In line with our cross-sectional survey study, we tested our model referencing to two different IT to improve confidence in the study's conclusions (Thatcher et al. 2018). Once again, we use smartphones and WhatsApp as both stand as examples of consumer IT as they are both commonly used in both personal and work contexts (Carter et al. 2020a; Matassi et al. 2019).

We aimed to gather enough valid answers to detect a moderate effect with a statistical power level of 0.80 for each condition. According to a power analysis performed using a Monte Carlo simulation, we required at least 350 complete answers in each condition to reach this goal. Prior to performing the full study, we performed a pre-test to validate our protocol. The survival rate for the pre-test allowed us to estimate how many participants needed to be invited for us to meet our goal of gathering 350 valid answers in the second stage.

2.3.2.5 Participants

We recruited participants using the same approach and criteria as in our cross-sectional survey study. We recruited our participants on the Prolific.com microtask platform. We limited our study to smartphone and WhatsApp users who are full-time employees over 18 years old, have a submission acceptance rate of over 95% on the platform, and did not participate in the pre-test. Again, the survey was open to participants from all geographical regions. We compensated participants using the platform's recommended hourly monetary pay rate.

Participants also had to state they would be available three weeks from the initial collection stage to participate in the second collection stage. Participants were randomly assigned to either the smartphone condition or the WhatsApp condition.

In the first collection stage, we obtained 521 answers for the smartphone condition and 500 for the WhatsApp condition. For each of the conditions, 394 participants took part in the second collection stage. In the smartphone condition, we removed seven answers provided in abnormal time, two patterned answers (e.g., answering “4” to all items), and five unpractical cases (e.g., using a smartphone 24 hours per day for work). In the WhatsApp condition, we removed nine answers provided in abnormal time, one patterned answer, and two unpractical cases (e.g., using WhatsApp 24 hours per day for work). Hence, we obtained 380 valid answers for the smartphone condition and 382 for the WhatsApp condition. The demographic information and use characteristics of participants who provided valid answers for both data collection stages is presented in Table 2-9.

Table 2-9: Characteristics of participants who took part in both collection stages

		Smartphone condition		WhatsApp condition	
Variable	**Value**	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Gender (self-identified)	Female	142	37.37	138	36.13
	Male	234	61.58	241	63.09
	Other	2	0.53	3	0.79
	Prefer not to answer	2	0.53	0	0
Age Group	20 and under	4	1.05	1	0.26
	21-30	114	30	139	36.39
	31-40	137	36.05	142	37.17
	41-50	76	20	63	16.49
	51-60	43	11.32	30	7.85
	61 and above	6	1.58	7	1.83
Education	Bachelor's Degree	200	52.63	179	46.86
	Graduate Degree	114	30	132	34.55
	High School	61	16.05	61	15.97
	Some High School	2	0.53	3	0.79
	Trade School	3	0.79	7	1.83
Location	Africa	42	11.05	31	8.12
	Asia	3	0.79	2	0.52
	Europe	275	72.37	286	74.87
	North America	49	12.89	51	13.35
	Oceania	1	0.26	1	0.26
	Other	5	1.32	6	1.57
	South and Central America	5	1.32	5	1.31
Variable		**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
Daily use duration in hours		2.74	2.78	1.54	1.97
Daily use frequency in number of times		10.70	15.59	7.30	12.00
Years of experience with IT (with current smartphone and WhatsApp)		2.78	3.1	8.19	2.80

2.3.2.6 Result validity

Prior to analyzing our results, we performed several validity tests.

Indicator and construct reliability: We first performed a PCA analysis for the ITSCC scale developed in this paper. The results displayed in Table 2-10 show that for both conditions, all items for the ITSCC scale loaded on their first-order construct above the recommended level of 0.7. We then performed a CFA analysis to assess the validity of our constructs. We analyzed the loading for all our measures. The factor loading can be observed in Table 2-11 for the smartphone condition and Table 2-12 for the WhatsApp condition.

Table 2-10: CPA for Study 2

	Smartphone condition			**WhatsApp condition**		
Item no	**Mean**	**SD**	**Factor Loading**	**Mean**	**SD**	**Factor Loading**
ITSCC - Certainty						
ITSCCCE1	5.72	1.2	0.92	5.52	1.3	0.87
ITSCCCE2	5.71	1.2	0.95	5.53	1.25	0.96
ITSCCCE3	5.72	1.15	0.88	5.52	1.31	0.85
ITSCC – Coherence						
ITSCCCO1	5.68	1.69	0.85	5.68	1.67	0.75
ITSCCCO2	5.31	1.61	0.71	5.36	1.53	0.72
ITSCCCO3	6.15	1.34	0.71	6.01	1.37	0.81
SD= Standard deviation						

No item cross-loaded above a significant level of 0.5 on another construct. All items for ITSCC-certainty, ITSCC-coherence, perceived organizational support for consumer IT and innovative consumer IT work behaviors loaded on their first-order construct above the recommended threshold of 0.7. We note that for consumer IT technostress, item TS6 in the WhatsApp condition did not meet the recommended threshold of 0.7 but nevertheless loaded above the significant threshold of 0.6. Furthermore, the reliability for our first order constructs

was strong with Cronbach's Alpha greater than 0.7 for all our first-order constructs. This also applies to the second order construct of ITSCC which had a Cronbach's Alpha of 0.829 in the Smartphone condition and 0.77 in the WhatsApp condition.

Table 2-11: Construct item loadings for the smartphone condition

Item	Mean	SD	ITSCC - Certainty	ITSCC - Coherence	Consumer IT Technostress	Perceived organizational support for consumer IT	Innovative consumer IT behaviors
ITSCCCE1	5.72	1.2	**0.946**	0.340	-0.258	0.248	0.175
ITSCCCE2	5.71	1.2	**0.957**	0.364	-0.232	0.219	0.209
ITSCCCE3	5.72	1.15	**0.931**	0.299	-0.212	0.237	0.182
ITSCCCO1	5.68	1.69	0.303	**0.877**	-0.495	0.037	-0.105
ITSCCCO2	5.31	1.61	0.172	**0.804**	-0.379	0.017	-0.163
ITSCCCO3	6.15	1.34	0.397	**0.857**	-0.492	0.016	-0.057
TS1	3.26	1.69	-0.122	-0.321	**0.716**	0.224	0.166
TS2	3.14	1.68	-0.167	-0.289	**0.744**	0.259	0.122
TS3	2.45	1.45	-0.235	-0.424	**0.798**	0.06	0.095
TS4	2.37	1.5	-0.217	-0.452	**0.773**	0.01	0.024
TS5	2.41	1.65	-0.144	-0.475	**0.791**	0.104	0.17
TS6	1.97	1.44	-0.235	-0.491	**0.735**	0.043	0.108
POSC1	5.15	1.58	0.216	-0.03	0.194	**0.93**	0.259
POSC2	5.22	1.55	0.216	0.029	0.125	**0.946**	0.166
POSC3	5.5	1.48	0.265	0.076	0.098	**0.943**	0.157
ICB1	4.16	1.71	0.202	-0.127	0.157	0.196	**0.954**
ICB2	4.09	1.78	0.195	-0.09	0.135	0.183	**0.961**
ICB3	4.07	1.76	0.173	-0.132	0.136	0.213	**0.949**

Table 2-12: Construct item loadings for the WhatsApp condition

Item	Mean	SD	ITSCC - Certainty	ITSCC - Coherence	Consumer IT Technostress	Perceived organizational support for consumer IT	Innovative consumer IT behaviors
ITSCCCE1	5.52	1.31	**0.924**	0.158	-0.17	0.222	0.155
ITSCCCE2	5.54	1.25	**0.952**	0.160	-0.155	0.257	0.162
ITSCCCE3	5.52	1.31	**0.915**	0.188	-0.187	0.281	0.12
ITSCCCO1	5.68	1.68	0.102	**0.835**	-0.473	0.096	-0.1
ITSCCCO2	5.37	1.53	0.074	**0.816**	-0.407	0.038	-0.162
ITSCCCO3	6.02	1.37	0.257	**0.885**	-0.554	0.149	-0.055
TS1	2.85	1.55	-0.162	-0.408	**0.805**	0.131	0.16
TS2	2.86	1.59	-0.134	-0.435	**0.786**	0.079	0.122
TS3	2.28	1.36	-0.153	-0.408	**0.798**	0.069	0.106
TS4	2.37	1.39	-0.099	-0.447	**0.79**	0.05	0.144
TS5	2.38	1.58	-0.127	-0.469	**0.787**	0.078	0.208
TS6	1.61	1.06	-0.177	-0.484	**0.69**	-0.101	0.105
POSC1	4.7	1.64	0.236	0.073	0.097	**0.933**	0.365
POSC2	4.69	1.72	0.232	0.134	0.06	**0.944**	0.333
POSC3	4.9	1.6	0.298	0.12	0.035	**0.956**	0.386
ICB1	3.48	1.71	0.155	-0.096	0.163	0.386	**0.951**
ICB2	3.48	1.76	0.141	-0.118	0.174	0.348	**0.967**
ICB3	3.42	1.81	0.156	-0.129	0.19	0.373	**0.969**

Table 2-13: Inter-first order construct correlation for the smartphone condition

	CA	ITSCCCE	ITSCCCO	TS	POSC	ICB
ITSCC - Certainty (ITSCCCE)	0.94	**0.94**				
ITSCC - Coherence (ITSCCCO)	0.80	0.36	**0.85**			
Consumer IT technostress (TS)	0.85	-0.25	-0.54	**0.76**		
Perceived organizational support for consumer IT (POSC)	0.93	0.25	0.03	0.15	**0.94**	
Innovative consumer IT work behaviors (ICB)	0.95	0.20	-0.12	0.15	0.21	**0.95**
CA = Chronbach's Alpha Note: Square roots of AVE are in bold and reported along the diagonal of the correlation of constructs.						

Table 2-14: Inter- first order construct correlation for the WhatsApp condition

	CA	ITSCCCE	ITSCCCO	TS	POSC	ICB
ITSCC - Certainty (ITSCCCE)	0.94	**0.93**				
ITSCC - Coherence (ITSCCCO)	0.80	0.18	**0.85**			
Consumer IT technostress (TS)	0.87	-0.18	-0.57	**0.78**		
Perceived organizational support for consumer IT (POSC)	0.94	0.27	0.12	0.07	**0.94**	
Innovative consumer IT work behaviors (ICB)	0.96	0.16	-0.12	0.18	0.38	**0.96**
CA = Chronbach's Alpha Note: Square roots of AVE are in bold and reported along the diagonal of the correlation of constructs.						

Discriminant validity: To test for discriminant validity, we validated that the correlations between our constructs were smaller than the AVE's square root for each construct (MacKenzie et al. 2011). We show the results in Table 2-13 for the smartphone condition and Table 2-14 for the WhatsApp condition. We also calculated the heterotrait-monotrait ratio (HTMT) for both conditions (Henseler et al. 2015). No correlations were above the recommended threshold of 0.85. These results indicate discriminant validity from our constructs in both conditions.

Common method bias (CMB): CMB threatens the validity of studies using self-reported information. We, therefore, designed our study to minimize potential CMB. Using a temporal separation between the collection point of the outcome variable and the other variables is a design approach that reduces CMB (Podsakoff et al. 2003). This approach was implemented in our design study as data for innovative consumer IT work behaviors were collected in our second collection stage, while data for antecedents were collected in the first collection stage.

We also performed tests regarding the presence of CMB. We utilized the marker variable approach to test for CMB within our study. In this study, we included a variable regarding the users' ability to listen to music as a theoretically unrelated marker variable. We used this variable to perform a CFA that included a method factor, composed of all items, and a marker variable factor (Polites et al. 2018). All items continued loading on their respective construct, and no items loaded to a larger extent on the common method factor or the marker factor. This indicates that there is a scarce indication that CMB substantially affects our results.

2.3.2.7 Structural model result

We chose PLS to evaluate our model. PLS is well established in the IS field to test early-stage models (Xu et al. 2011). We used the Smart PLS 4 SEM software to assess our model, using a 5000-subsamples bootstrapping procedure. The results from our model are displayed in Figure 2-4 for the smartphone condition model and Figure 2-5 for the WhatsApp condition model. Table 2-15 features which hypotheses were supported. The results indicate that some relationships differ from previous findings regarding technostress. Indeed, the relationship between consumer IT technostress and innovative consumer IT work behavior was positive and significant for both the smartphone and WhatsApp condition. Furthermore, the relationship between perceived

organizational support for consumer IT and consumer IT technostress was positive significant for the smartphone but not significant in the WhatsApp condition. These results differ from previous findings in the technostress literature.

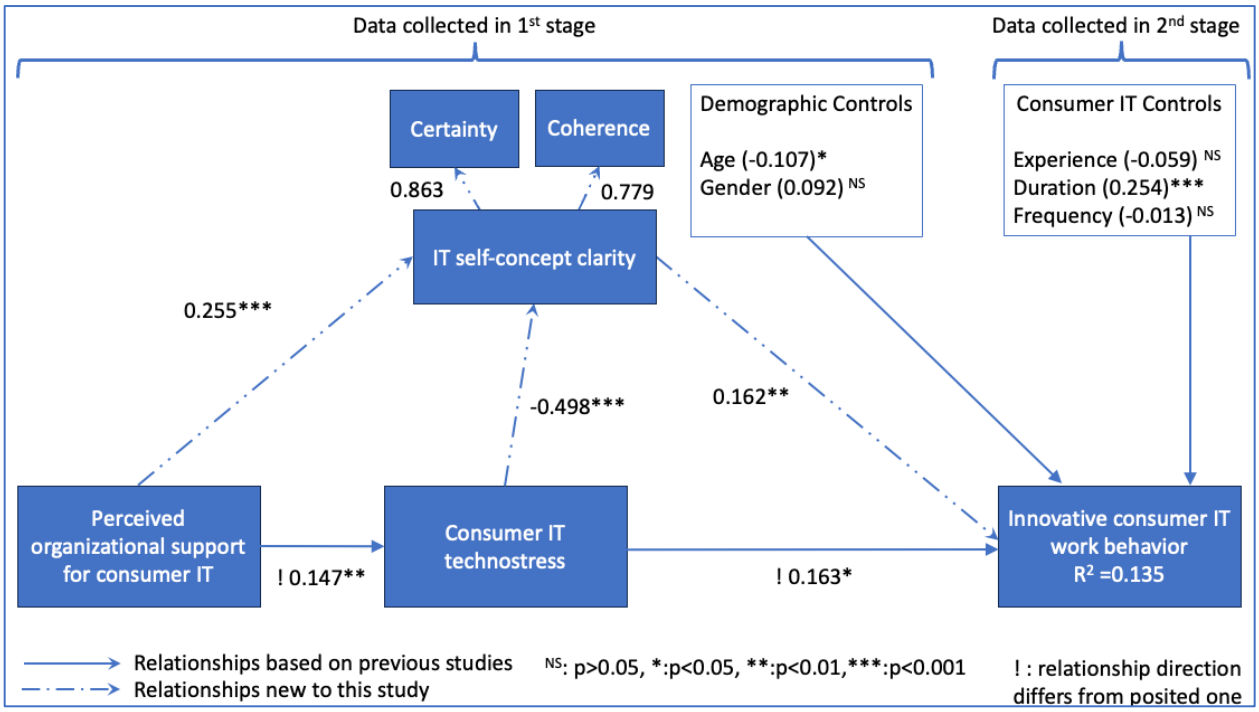

Figure 2-4: Structural model for the smartphone condition

Results support our hypotheses regarding ITSCC. For both conditions, the relationship between perceived organizational support for consumer IT and ITSCC was significant and positive, the relationship between consumer IT technostress and ITSCC was negative and significant, and the relationship between ITSCC and innovative consumer IT work behaviors was positive and significant. We should, however, note that the R^2 for innovative consumer IT work behavior was weak in the smartphone conditions (0.135) and the WhatsApp condition (0.131).

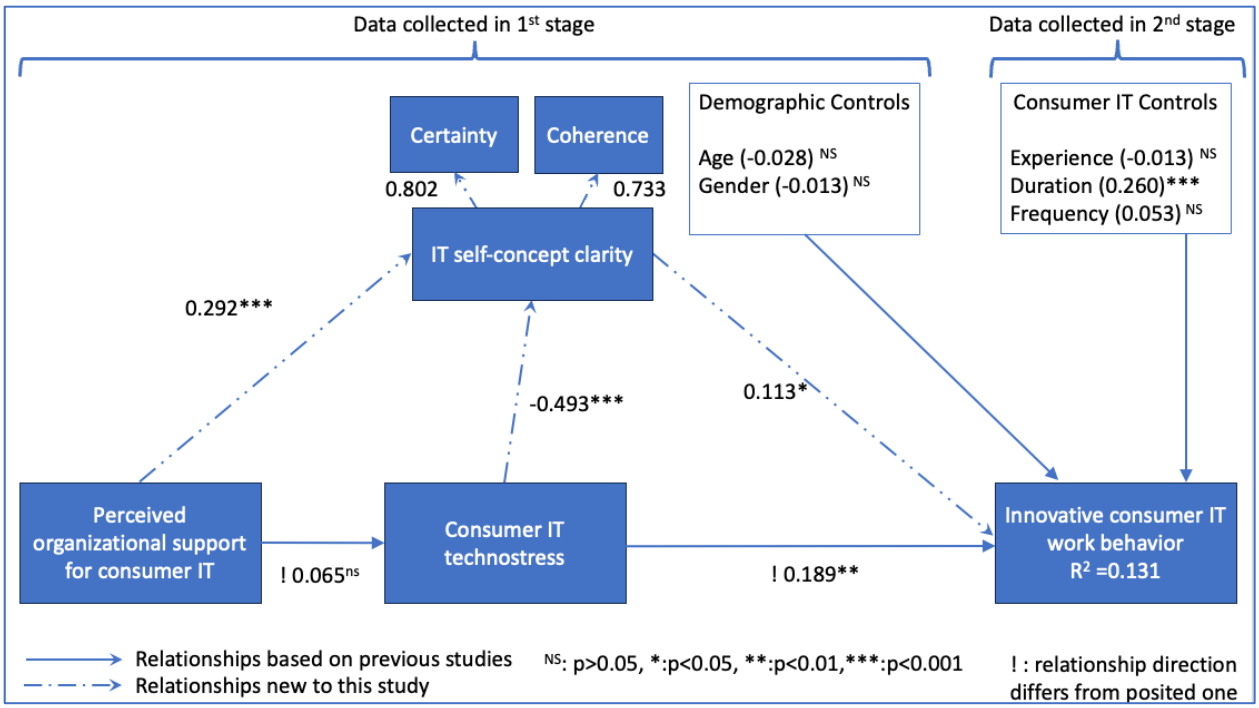

Figure 2-5: Structural model for the WhatsApp condition

Table 2-15: Hypotheses support for each condition

Number	Hypothesis	Support	
		Smartphone condition	WhatsApp condition
H1	A higher level of consumer IT technostress is associated with a lower level of innovative consumer IT work behavior.	No	No
H2	A higher level of perceived organizational support for consumer IT use will be associated with a lower level of consumer IT technostress.	No	No
H3	A higher level of perceived organizational support for consumer IT use will be associated with a higher level of ITSCC.	Yes	Yes
H4	A higher level of consumer IT technostress will be associated with a lower level of ITSCC.	Yes	Yes
H5	A higher level ITSCC will be associated with a higher level of innovative consumer IT work behavior.	Yes	Yes

2.4 Discussion

Understanding the different aspects of the user's self is important in the IT consumerization context, where individuals can develop ambiguous and incoherent beliefs

toward themselves as IT users (Carter et al. 2018). Therefore, defining an IT-usage context-specific construct of SCC through the conceptualization of ITSCC, validating its measurement, and testing its utility in a longitudinal construct provides several contributions to theory and practice.

2.4.1 Theoretical contributions

The ITSCC construct enables an explanation of user behaviors when interacting with consumer IT. As the ITSCC construct definition is grounded in the self-concept literature, it allows for the expansion of existing models grounded in related literature. This was shown in our studies as the relationships we tested put forward the potential of ITSCC in explaining how users react to their environment when using consumer IT for work. Our findings highlight the fact that ITSCC can play an important role in increasing the predictive power of models explaining behaviors when faced with environmental demands associated with the use of consumer IT for work.

Our longitudinal study shows that ITSCC can help further explain the relationship between consumer IT technostress and innovative consumer IT work behaviors. The negative relationship between consumer IT technostress and ITSCC shows that consumer IT technostress can affect individuals' perception of themselves as IT users by making them question their beliefs toward themselves and create incoherence among their beliefs. Furthermore, the positive relationship between ITSCC and innovative consumer IT work behaviors shows that maintaining a high level of ITSCC while experiencing consumer IT technostress enables users to adapt themselves and implement innovative consumer IT work behaviors. This is coherent with the broader literature on SCC, which states that maintaining a high level of SCC enables individuals to adapt when faced with stressors (Ritchie et al. 2011). The findings from this study are coherent with the findings

from our cross-sectional survey, showing that having a higher level of ITSCC is associated with a greater level of domain-specific outcomes.

Furthermore, our results show that interactions between users and consumer IT are complex. Our results show that the relationships between consumer IT technostress, perceived organizational support for consumer IT, and innovative consumer IT work behaviors were not as theorized. Unlike what was posited, both relationships are positive. One explanation for these results can be that perceived organizational support for consumer IT increases pressure on users to increase their workload, explaining this increase in stress rather than an inhibition of stressors (Köffer et al. 2015a). Furthermore, studies on the effect of technostress on innovative consumer IT work behaviors have shown its positive effect on finding solutions when confronted with challenges (Califf et al. 2020). While such challenges may increase user demand, they can also motivate them to find innovative solutions to overcome them.

Our results also emphasize the importance of considering the antecedents of ITSCC. The positive relationship between ITSCC and perceived organizational support for consumer IT puts forward that there is an association between organizations clearly stating their supportive stance to users and users having a higher ITSCC. This allows users to innovate with their use of consumer IT.

On a broader note, our results were validated using two consumer IT, smartphones, and WhatsApp. The consistent results obtained using different IT provide trust in our results' generalizability and confirm that our construct is indeed technology-agnostic. It is also interesting to note that our longitudinal study utilized smartphones as an IT with a broad array of features and WhatsApp as an IT with features focused on instant messaging. The results for both IT were

consistent, as the relationships between ITSCC and other constructs were significant and in the same direction across both conditions. This shows that the degree of ITSCC will impact how users can benefit from their use of consumer IT, whether or not the consumer IT has a broad array of features.

Finally, our findings contribute to the broader literature regarding SCC. We answer the calls to consider individuals' clarity toward themselves in specific contexts (Schwartz et al. 2017). By conceptualizing the ITSCC, we expand the SCC literature by putting forward the impact of area-specific SCC on area-specific behavior and their broader impact on the individual. Therefore, we put forward that SCC is a concept with area-specific implications.

2.4.2 Practical contributions

This study has managerial implications. Our findings highlight that ITSCC plays a key role in determining how individuals can benefit from the use of consumer IT when experiencing consumer IT technostress. We showed that organizations can help users to further adapt themselves by showcasing support to users regarding their use of consumer IT in the workplace. This will enable users to maintain a clear conceptualization of themselves as IT users while confronted with consumer IT technostress and effectively innovate in their use of such IT. We encourage managers to engage in open communication with users regarding their support for the use of consumer IT to help them positively respond to consumer IT technostress and perform innovative consumer IT work behaviors.

2.4.3 Limitations

There are several limitations to these studies. First, we obtained all our data for these studies using the prolific.com platform. This platform has a reputation for being reliable, and we

utilized filters to obtain responses from trusted panelists only (Peer et al. 2017). However, results obtained for our studies might differ using a sample of participants who work exclusively in certain sectors. Therefore, there might be interest in carrying out studies using alternative data sources.

Also, on a conceptual level, we mentioned that the self-concept is a complex construct with multiple dimensions, and we integrated multiple self-concepts that interact with one another. It might, therefore, be of interest to carry out studies where theoretical models encompass ITSCC along with other dimensions of the self-concept to fully comprehend the roles of ITSCC in explaining user behavior.

2.4.4 Future studies

The conceptualization of ITSCC and the development and validation of its operationalization support a better understanding of users' interactions with consumer IT. SCC has been tested as an antecedent to various behaviors, such as responding to feedback and actively coping with stress (Guadagno and Burger 2007; Ritchie et al. 2011). Hence, ITSCC could be useful for predicting IT interaction behaviors in multiple cases pertinent to the IT consumerization context.

SCC influences an individual's response to their environment, as possessing less clarity makes individuals rely more on external information to guide their behaviors (Duan et al. 2021). Hence, understanding ITSCC could allow for a better understanding of the information individuals will use to adapt their IT use when interacting with IT. For instance, users' ITSCC can explain whether they will rely on organizational policies to adapt their use of IT in organizations. The relationship between ITSCC and adaptation could also be studied by investigating the interaction

of users with the IT interfaces. For instance, individuals interacting with self-monitoring devices receive suggestions for their interactions with the IT. Hence, when users receive information aimed at changing their behaviors while interacting with IT, understanding the role of ITSCC could explain individuals' responses to such communications.

There would also be interest in studying the relationship between ITSCC and variables relating to the well-being of users. For instance, since we established a significant relationship between ITSCC and consumer IT technostress in our longitudinal survey study, our model could be extended to understand the role of ITSCC in explaining the impact of consumer IT technostress's effect on users' strains and well-being. Indeed, it has been pointed out that SCC reduces the effect of stress on well-being (Ritchie et al. 2011).

Future findings regarding this construct would also have managerial applications. Since users increasingly use IT across multiple contexts to complete work tasks, understanding the effect of ITSCC could allow for strategies aimed at increasing the performance and well-being of workers to be improved. Aiming to foster the ITSCC of users could lead to more efficient technology introductions, training programs, and support features.

2.5 Conclusion

IT consumerization is a context in which interactions with IT affect users' sense of self. Understanding how individuals organize their beliefs toward themselves as IT users allows researchers to understand better how individuals react to their environment when using IT to perform work tasks. To this end, we developed conceptual and operational definitions of the ITSCC.

Our definition and scale development exercise has yielded a robust and valid instrument. Through multiple studies, we have been able to confirm the reliability of most of our indicators, the goodness of fit of our model, and the utility of ITSCC. The consistency of our results across multiple IT should inspire confidence in the replicability and validity of our findings.

The findings from our longitudinal study show how ITSCC can explain how users can benefit from IT consumerization when experiencing consumer IT technostress. This study outlines how managers should develop communication strategies to improve users' ITSCC to enable them to perform innovative consumer IT work behaviors. This opens the door for future research on how organizations can effectively communicate with users to improve their adaptation to the use of consumer IT for work.

2.6 Appendix 1: Longitudinal study questionnaire

Table 2-16 contains the questionnaire answers by participants for Study 2. Items for the ITSCC scale are excluded from this table.

Table 2-16: Longitudinal study questionnaire

Item No	**Item**
Perceived organizational support for consumer IT. Adapted from Moqbel et al. (2021).	
POSC1	Usage of (my smartphone/WhatsApp) to perform work tasks is encouraged by management.
POSC2	Management endorses me using (my smartphone/WhatsApp) to perform work tasks.
POSC3	Management supports the use of (my smartphone/WhatsApp) to perform work tasks.
Consumer IT Technostress. Adapted from Lee et al. (2014).	
TS1	The use of (my smartphone/WhatsApp) for work forces me to live with very tight schedules.
TS2	I am forced to change habits to adapt to new developments in the use of (my smartphone/WhatsApp) for work.
TS3	I can NOT allocate time properly for my work activities because my time spent on (my smartphone/WhatsApp) activities varies.
TS4	Time spent resolving (my smartphone/WhatsApp) problems takes time away from fulfilling my work responsibilities.
TS5	I have to sacrifice my personal time to keep current on how to use (my smartphone/WhatsApp) for work.
TS6	I am threatened by people with newer (smartphone/WhatsApp) use skills.
Innovative consumer IT work behaviors. Adapted from Tarafdar et al. (2015).	
IBS1	Using (my smartphone/WhatsApp) for work helps me to identify innovative ways of doing my job.
IBS2	Using (my smartphone/WhatsApp) for work helps me identify new ideas relating to my job.
IBS3	Using (my smartphone/WhatsApp) for work helps me try out innovative ideas.
Perception of music ability (Hash 2017).	
MSE1	I can hear subtle differences or changes in musical sounds.
MSE2	I have a good sense of rhythm.
MSE3	Learning new musical skills would be easy for me.
Consumer IT use	
Duration of Use	On a regular workday, I spend on average __ hours and __ Minutes using (my smartphone/WhatsApp) for work.
Frequency of use	On a regular workday, I use on average (my smartphone/WhatsApp) ___ times for work.
Experience	I have been using (my smartphone/WhatsApp) for ___ years and ___ months.

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Bridging Chapter 2 and Chapter 3

In Chapter 2, we developed a conceptual and operational definition of IT self-concept clarity (ITSCC). We validated the scale using multiple studies and consumer IT, strengthening the validity and generalizability of our results. We intended to understand this construct's role in models relating to the use of consumer IT in the workplace. We met this goal by conducting a longitudinal study that showed that ITSCC plays a role in predicting whether users will adapt themselves when facing technostress from using consumer IT for work.

In Chapter 3, we build on the output from the first chapters by investigating how organizations can support users' adaptation to using consumer IT to complete work tasks. This research question emerged in the first chapter as the literature on IT consumerization raises the issue that organizations face challenges regarding users' support when using consumer IT to complete work tasks. We aim to answer this research question by investigating the effectiveness of persuasive communication features on users' adaptation when considering their ITSCC level.

The construct definition and scale validation we carried out in Chapter 2 allows for the completion of Chapter 3's study. Indeed, having defined ITSCC provides a conceptual definition of a construct that should play a role in the adaptation of users, specifically within the context of consumer IT use to complete work tasks. Furthermore, we can utilize the ITSCC scale we validated in Chapter 2 to validate our manipulation of ITSCC in this experiment.

In Chapter 3, we will build on the theoretical implications raised regarding the role of ITSCC in IT user adaptation. We will accomplish this by using the instrument generated and validated in the previous chapter to design an experiment.

3 Chapter 3: Persuading content creators to adapt: The role of users' IT self-concept clarity

Abstract

To achieve an effective use of a personal IT such as Social Networking Sites (SNS), now used in a work context, users need to adapt their use behavior. By either putting forward gains from adaptations or losses from failing to adapt, providing framed suggestion messages can motivate users to adapt. However, using SNS across multiple domains can lead users to generate heterogeneous beliefs about themselves as IT users. Indeed, the extent to which their beliefs toward themselves as IT users are organized with coherence and certainty, or their IT self-concept clarity (ITSCC), can potentially affect the user's focus, impacting the effectiveness of framed suggestion messages. This study examines the relationship between message framing and the ITSCC of SNS users and their effect on framed suggestion message effectiveness. To test the relationships, we designed an SNS use 2 (Framing: Gain vs. Loss) x 2 (ITSCC: Lower vs. Higher) experiment, manipulating suggestion message framing and ITSCC to determine their impact on adaptation. Our results show that loss-framed messages were more effective at changing the behavior of users with a lower level of ITSCC compared to users with a higher level of ITSCC. Meanwhile, gain-framed suggestion messages were more effective than loss-framed messages for users with higher levels of ITSCC. These findings contribute to the framing literature in IS by shedding light on how ITSCC can potentially alter the effectiveness of message framing. We inform practitioners regarding a user trait to be considered when designing framed suggestion messages to persuade SNS content creators to adapt.

3.1 Introduction

Workers increasingly use social networking sites (SNS) they consume in their personal lives, such as Facebook, Twitter, and TikTok, to perform content creation work tasks in organizations (Bata et al. 2018; Harris et al. 2012b). For instance, individuals who create and post content on Facebook for personal purposes, such as communicating with friends and family, also use the same platform to perform content creation work tasks, such as writing posts to reach potential clients for their organization. This phenomenon, referred to as IT consumerization, has the potential to improve a user's work task performance, as they can leverage their learning done in their personal use of that IT.

However, to reap the benefits of using SNS in the work context, users may have to adapt the way they use it in the personal context. When completing content creation work tasks, the expectations for SNS use in an organization may differ from the expectations of using SNS in a personal context (Ali-Hassan et al. 2015). For instance, feature use such as using hashtags abundantly, may be of no issue in the personal context. However, such use can be wasteful and ineffective when diffusing information in a work context (Temnikova et al. 2015). Hence, using SNS to perform content creation work tasks requires users to change the way they use SNS to improve the fit with their new work task. Failing to adapt can lead users to use SNS in ways that do not fit the requirements of their content creation work task, resulting in reduced benefits for the organization (Chung et al. 2018).

To address this problem, organizations can support users' SNS use when completing content creation work tasks by showing them suggestions on best use. For instance, social media management systems (SMMS) have features that allow users to be prompted with suggestion

messages to improve their use of SNS features while generating content (Benthaus et al. 2016). In our example, where hashtags have been used too abundantly, suggestion messages could advise users to revise their posts to use a more optimal number of hashtags.

Suggestion messages have been studied as a persuasive communication feature of information systems (Oinas-Kukkonen 2010). Notably, in the context of IT use, framing messages regarding gain or loss for the recipient has been identified as a message design feature that persuades users to change their IT use behaviors (Liu et al. 2020; Xiao and Benbasat 2015). Gain-framing implies presenting the positive consequences of performing the suggested behavior, while loss-framing emphasizes the negative consequences of failing to perform the suggested behavior (Rothman et al. 2006). When exposed to a framed suggestion message, IT users evaluate whether to change their behavior accordingly by considering their own knowledge and the information provided by the message and their environment. Hence, the effectiveness of message framing can vary depending on the context and the individual characteristics of the recipient (Oinas-Kukkonen 2010).

However, the lack of clarity that users can have toward themselves as SNS users can complicate the evaluation of framed suggestion messages. This lack of clarity originates from individuals' interactions with SNS across multiple contexts, such as using SNS for hedonic purposes and work. By interacting with SNS in multiple contexts, individuals perceive the use of this IT as part of how they define themselves, developing an IT identity (Carter and Grover 2015). This process leads users to integrate beliefs toward themselves as IT users within their sense of self (Carter et al. 2013). We refer to the beliefs that individuals have toward themselves as IT users as the IT self-concept (Janneck et al. 2013). This process is especially pertinent for SNS,

which are embedded in multiple contexts and tasks (Polites et al. 2018). It can also lead individuals to integrate ambiguous and contradictory beliefs toward themselves as IT users. For instance, SNS users can develop the beliefs of being pertinent yet unnoticeable. Possessing such opposing beliefs can increase their ambiguity and uncertainty over themselves as IT users.

Having ambiguity and uncertainty over themselves makes it harder for individuals to access internal knowledge to evaluate situations and to set their goals (Campbell et al. 1996; Duan et al. 2021; Setterlund and Niedenthal 1993b). Since users use the same IT across different contexts, their beliefs about themselves as IT users apply across different contexts and affect their reactions to their environment (Schmitz et al. 2016). Hence, we suggest that understanding the role of an individual's clarity of the organization of their beliefs toward themselves as IT users, or the IT self-concept clarity (ITSCC), will allow a better understanding of why users modify their behavior when exposed to framed suggestion messages regarding the use of SNS to perform their content creation work tasks. We, therefore, ask the following question: Does the use of framed suggestion messages about the use of SNS to perform content creation work tasks impact adaptation differently based on the user's ITSCC?

To answer this question, we designed a lab experiment using microblogging as the contextual SNS. Microblogging SNS are widely used in the consumer market and are commonly used to perform content creation work tasks (Ali-Hassan et al. 2015). We manipulated ITSCC using a priming manipulation and manipulated suggestion message framing by designing gain-framed and loss-framed suggestion messages. We measured the suggestion messages' effectiveness using the frequency to which individuals revise their SNS use behaviors following their exposure to manipulations. Performing revisions indicates that suggestions have effectively

led users to deploy efforts to change their behavior (Wu and Schunn 2020). To ensure that our research setting represented the use of IT within an organization, we developed a realistic scenario regarding using a microblogging SNS for an academic institution in collaboration with a North American university.

This study has several theoretical and practical contributions. By investigating the role of an individual's ITSCC, we bring further understanding of their reactions to interactions with IT depending on the clarity of the organization of the beliefs they develop toward themselves. Furthermore, by studying the interaction between ITSCC and message framing, we contribute to the persuasive system design stream by showing how this trait can affect the effectiveness of framed suggestion messages. Our results should inform practitioners implementing automated suggestion messages to support the creation of SNS content. It highlights the need to understand the organization of the users' multiple beliefs of themselves as IT users, accumulated through different contexts, to design the most effective suggestion messages in the work context. Perfecting an automated messaging solution is necessary since organizations consider that having workers who can produce SNS content that matches the organization's expectations is one of the main barriers to realizing the benefits of using SNS (Chung et al. 2018).

3.2 Background

3.2.1 Using social networking sites for content creation work tasks

SNS have been defined as a group of Internet-based applications allowing users to create and exchange user-generated content (Kaplan and Haenlein 2010). Facebook, Instagram, Twitter (now X) and TikTok are well known examples of SNS. Their content creation features allow users to contribute to SNS as the content can lead to social interactions once broadcasted (Chen et al.

2014). Workers notably use those features to perform information broadcasting tasks in the work context.

Due to their popularity, SNS are embedded across multiple contexts (Dhar and Bose 2023). Hence, the same users interact with them for their enjoyment in their personal lives to maintain their social relationships and to perform information diffusion work tasks. For instance, a communication professional utilizing Facebook to create posts to reach their potential audience may base their approach on their personal Facebook experience. The use of SNS to perform content creation work tasks is an example of IT consumerization, or the use of the same IT across personal and work contexts (Köffer et al. 2014a). One of the implications of IT consumerization is that the interaction of IT in a user's personal life will impact how they interact with IT within the work context (Gregory et al. 2018).

However, in using SNS to perform content generation work tasks, users must consider other factors than when used in a personal context, such as the expectations of their organizations and their customers. Organizations often have social media management strategies, putting forward their expectations regarding users using SNS to perform work tasks. For instance, an organization may expect social media use to optimize information sharing (Jarrahi et al. 2017). Such expectations aim to improve the fit between social media use and the tasks carried out within the organization (Benthaus et al. 2016). Customers of organizations who consume social media also influence the expectations of SNS users at work. For example, studies have found that customers expect content transmitted by organizations on SNS to be information broadcasting oriented, which differs from the social engagements expected from the personal use of SNS (Chen et al. 2020). Such different expectations highlight the different requirements

for using SNS to perform content creation work tasks compared to using SNS within the personal setting, requiring adaptation from the user.

Successful adaptation of SNS use to context-specific expectations occurs when users perform behavioral adaptation. Such adaptations imply that users deploy efforts to better fit their IT system use and the task requirements (Barki et al. 2007; Wu et al. 2017). Engaging in behavioral adaptation enables users to fully benefit from using certain features of an IT to improve their effectiveness when performing a task (Hsieh et al. 2011). Adaptation behaviors are essential when using the same IT across contexts, as the knowledge regarding IT use accumulated in one context may need to be modified to yield benefits, such as performance gains, in another context (Schmitz et al. 2016).

Organizations can communicate their expectations to SNS users by displaying suggestion messages to users while generating SNS content. Suggestion messages have been identified as key features to persuade users to modify their behaviors when interacting with an IT (Oinas-Kukkonen and Harjumaa 2009). The following section will provide background literature regarding message features.

3.2.2 Persuading with suggestion messages and framing

Providing suggestion messages to users while performing tasks has long been part of IT design. The persuasive communication stream has taken a particular interest in this feature. Persuasion has been defined as a deliberate attempt to change attitudes and behaviors (Fogg 1999). Suggestion messages are part of interactive features that aim to persuade users to modify their behavior (Fogg et al. 2007). The essential attribute of a suggestion is that the message's content contains advice on the user's behavior when interacting with the system (Oinas-

Kukkonen and Harjumaa 2009). Hence, those features aim to change their behavior per the suggestion.

The effectiveness of a suggestion message is evaluated based on the behavior change of the recipient. According to Fogg's behavior change model for persuasive design, the effectiveness of a suggestion message depends on whether the recipients can take action and are motivated to do so (Fogg 2009). The advice provided by suggestion messages facilitates acting as they reduce users' efforts to change their behaviors. Studies in the Information Systems field have found that implementing suggestion messages lowers the effort of users in using certain features. For instance, providing users with suggestion messages advising the use of features that allow the detection of biased shopping recommendation agents was shown to have a positive effect on using those features (Xiao and Benbasat 2015). The suggestion messages facilitated the use of those features by reducing the effort required to access them.

3.2.2.1 Goal framing

Anticipating the consequences of following a suggestion is a key motivating factor (Fogg 2009). Individuals can be motivated by anticipating positive or negative consequences from an action. The persuasive communication strategy that aims to influence the goals individuals set for themselves based on a behavior's positive or negative consequences is referred to as Goal framing (Levin et al. 1998). The underlying assumption of this strategy is that setting goals for themselves motivates individuals to make efforts to reach them.

When framing behaviors as gains, messages highlight how recipients will benefit from a behavior (Levin et al. 2002). This can motivate recipients to adopt the suggested behavior by taking the risk of deploying resources to modify their behavior to reap positive consequences.

Meanwhile, framing a behavior as having the potential to cause a loss highlights how recipients will incur negative consequences from failing to behave as suggested (Rothman and Salovey 1997). This can motivate recipients to behave by the suggestion to avoid negative consequences.

3.2.2.2 Framing in information systems studies

Studies on message framing within the Information Systems field have highlighted that the effect of framing varies depending on the nature of the task being completed by users. For instance, gain-framed messages are more effective when users aim to complete self-improvement tasks, such as a learning task or using a collaborative feature (Nguyen et al. 2017; Van Toorn et al. 2022). Other studies have shown that loss-framed messages are more effective in tasks when users face imminent threats, such as changing their passwords or interacting with misleading agents (Seo and Park 2019; Xiao and Benbasat 2015). However, there is scarce literature regarding the effectiveness of gain and loss-framed messages to support SNS use in content creation work tasks.

The extent to which users change their behavior following exposure to a framed message can also vary depending on their personal characteristics. For instance, Luan et al. (2023) found that the goal-focus of users influences the effectiveness of framed messages. They showed that individuals focused on setting self-growth goals are more likely to be persuaded by gain-framed messages. In contrast, individuals more focused on setting self-preservation goals are more likely to be persuaded by loss-framed messages. In light of such findings, there have been calls to further explore how psychological theories can explain the assessment of framed messages and their impact on behavior change (Oinas-Kukkonen 2010).

To provide a theoretical explanation fitting the context of using SNS to complete work tasks, we consider the SNS's embeddedness across multiple contexts. This embeddedness leads users to develop multiple beliefs about themselves as SNS users, such as finding themselves effective yet distracted as SNS users (Polites et al. 2018). Possessing such beliefs could affect the user's reaction to framed suggestion messages as the coherence and certainty that individuals have toward themselves can have an effect on how they react to their environment (Campbell et al. 1996). In the next section, we introduce the concept of IT self-concept clarity as an individual characteristic of SNS users and explain how it could affect reactions to framed suggestion messages.

3.2.3 IT self-concept and IT self-concept clarity

Through their interactions with IT embedded across multiple contexts and activities, including SNS, individuals integrate the use of those IT as a part of how they perceive themselves (Carter and Grover 2015). For instance, individuals who incorporate the use of SNS within their activities, such as socializing and communicating, are more likely to integrate the use of SNS as part of their sense of self (Polites et al. 2018). This leads users to generate beliefs they hold toward themselves as IT users within their self-concept (Carter et al. 2013). The beliefs that individuals hold toward themselves as IT users are referred to as the IT self-concept (Zylka et al. 2015). This encompasses both the beliefs regarding their abilities, such as knowledge and skills, as well as their IT use traits, or identifiable IT use behavior. Users can include beliefs to which they attribute positive and negative values within their IT self-concept (Zylka et al. 2015). For example, SNS users can find that SNS makes them more sociable, a positive attribute, but also

unnoticeable, a negative attribute. Including positive and negative beliefs about themselves leads users to experience conflict over their perception of themselves as IT users.

Since users utilize consumer IT, such as SNS, in multiple contexts, conflicts between beliefs are likely to occur. Using the same IT across multiple contexts leads individuals to develop different beliefs about themselves as IT users. For instance, users who believe that using SNS makes them more knowledgeable might find that the same IT makes them more distracted (Polites et al. 2018). This heterogeneity increases the possibility that the users' conception of themselves as IT users will be confused rather than coherent. For users, developing incoherent beliefs about themselves creates confusion regarding their perceptions of themselves when using the IT and the goals they should set for themselves as IT users. The beliefs individuals hold toward themselves as IT users can also be held with differing degrees of certainty. For example, SNS users might be uncertain that using this IT makes them more connected due to the negative and positive interactions they experience with SNS in their personal lives (Kothgassner et al. 2017). The coherence and certainty dimensions of the organization of those beliefs are part of the IT self-concept clarity (ITSCC) construct or the extent to which an IT user's beliefs about themselves are defined with certainty and coherence (Welt and Bassellier 2023). ITSCC stands as an adaptation of the self-concept clarity (SCC) (Campbell et al. 1996). While SCC applies to all the beliefs individuals have about themselves, ITSCC applies specifically to the beliefs that individuals have toward themselves as IT users.

While there are currently scarce studies regarding ITSCC, some findings suggest that this construct can influence the behavior of users in response to their environmental cues when using IT. Indeed, the uncertainty and confusion that an individual has over themselves as an IT user can

lead them to experience anxiety when interacting with IT (Carter et al. 2018). For individuals with opposing perceptions of themselves as IT users, such as being playful and anxious with computers, the positive effect of their experience is lower when assessing their interactions with IT (Hackbarth et al. 2003). It was also put forward by Barki et al. (2007) that users experiencing uncertainty about their IT use abilities and knowledge are more likely to seek information from colleagues and documents to set their goals for this IT use. Obtaining this information allows users to preserve themselves by reducing their discomfort from lower ITSCC.

These findings regarding the uncertainty and coherence of beliefs that users hold toward themselves as IT users imply that users with a lower level of ITSCC are less likely to rely on the knowledge they have and more likely to use information from suggestions to determine their goals regarding their IT use behavior. This is because the unclear organization of their beliefs toward themselves yields discomfort when these individuals attempt to define their goals based on their internal knowledge (Setterlund and Niedenthal 1993b). This discomfort makes those individuals rely more on suggestions to set their goals to reduce their discomfort (Ritchie et al. 2011). The ITSCC of a user should, therefore, play a role in the assessment users make of their environment.

Furthermore, the level of the ITSCC of users should also impact the effectiveness of messages depending on their framing. Indeed, the level of the ITSCC of a user should impact their perceptions of themselves and the nature of their goals. Individuals with a higher clarity over themselves are more likely to know in what ways they want to improve, making them more likely to set goals to improve themselves (Dunlop 2017). Meanwhile, individuals with lower levels of clarity over themselves are more focused on maintaining that clarity rather than setting

improvement goals (Emery et al. 2015). Similar dynamics have been observed in IT use contexts where it has been found that users experiencing uncertainty and confusion over their IT usage can lead individuals to limit their intention to enhance their use of IT (Carter et al. 2018). This would make users with lower levels of ITSCC less likely to take risks regarding their use of IT. Hence, by impacting the process through which users set their goals, the ITSCC has a role in determining how they assess and respond to their environment. We develop our research model on these bases in the next section.

3.3 Research model

The current study focuses on understanding the interaction between a user's ITSCC and framing in determining the effectiveness of suggestion messages to persuade users to adapt their use of SNS to perform content creation work tasks. The effectiveness of the messages is defined by the extent to which users change their behavior following their exposure to the messages. We focus on establishing whether the message content design feature of framing can improve the effectiveness of suggestion messages on users depending on their levels of ITSCC.

3.3.1 Framed suggestion message effectiveness and ITSCC

Framed suggestion messages provide users with advice. The advice facilitates behavioral change as it reduces the effort required to adopt a new behavior compared to a message with no advice (Fogg et al. 2007). However, an individual's motivation toward enacting the advice can vary depending on how it fits with their goals. Research has shown that the goal-setting approach of one individual is affected by the clarity of the organization of the beliefs one holds toward themselves (Campbell et al. 1996). This should be pertinent in the context of SNS use due to its embeddedness across multiple use settings, leading users to develop multiple beliefs toward

themselves as SNS users, with varying degrees of coherence and certainty (Kothgassner et al. 2017; Polites et al. 2018).

Having clearly organized beliefs about themselves makes individuals more likely to rely on their own knowledge to determine their goals (Ritchie et al. 2011). Indeed, having a well-articulated conceptualization of themselves allows individuals to identify the goals they want to set for themselves (Setterlund and Niedenthal 1993b). Hence, SNS users with a higher level of ITSCC would be more likely to set their IT usage goals based on their own knowledge rather than rely on suggestions.

In contrast, individuals with a lower level of clarity over themselves are more indecisive. Their indecisiveness stems from their unclear beliefs about themselves, making it harder for them to assess their desired outcomes in a situation and, therefore, determine what goal would be more appropriate for them (Duan et al. 2021). Therefore, individuals with a lower level of clarity over themselves experience uncertainty about the appropriateness of their goals when making decisions based on their knowledge (Uğurlar and Wulff 2022). Since uncertainty creates discomfort, these individuals are motivated to seek suggestions to make decisions and set their goals (Duan et al. 2021). SNS users with a lower level of ITSCC should, hence, be more likely to set their IT usage goals and perform adaptation behaviors based on the information provided by the suggestion message compared to SNS users with a higher level of ITSCC.

This reasoning is coherent with examples in the SCC literature. For instance, it has been shown that managers with lower levels of SCC are more likely to solicit suggestions and enact behaviors based on suggestions when making a business decision (Duan et al. 2021). It has also been found that individuals with a lower level of SCC are more likely to base their behaviors on

feedback (Guadagno and Burger 2007). The role of SCC and decision-making has also been studied within the IS field, where it has been found that individuals with lower levels of SCC are more likely to comply with recommendations when choosing products on e-commerce websites (Lee et al. 2010). These findings are also consistent with the IS use literature, which states that users with more uncertainty over themselves are more likely to seek information to reduce this uncertainty, leading them to perform behavioral adaptation based on this information (Barki et al. 2007).

These arguments apply to both gain-framed and loss-framed suggestion messages as both messages make information available to users, and the need for users with lower levels of ITSCC to utilize information from suggestion messages applies to both types of framing. We hence posit that:

H1a: Loss-framed suggestion messages are more effective on SNS users with lower levels of ITSCC compared to SNS users with higher levels of ITSCC.

H1b: Gain-framed suggestion messages are more effective on SNS users with lower levels of ITSCC compared to SNS users with higher levels of ITSCC.

3.3.2 Interaction between framing and ITSCC

For users with a higher level of ITSCC, gain-framed messages should be more effective than loss-framed messages. This is because individuals with a higher level of clarity over themselves are more likely to set self-improvement goals (Setterlund and Niedenthal 1993b). This preference occurs as clarity is associated with having a self-promotion focus (Light 2017). Setting clear goals to improve themselves as IT users would make SNS users with a higher level of ITSCC interested in obtaining gains toward these goals.

Furthermore, having a clear understanding of themselves allows individuals with a higher level of clarity over themselves to better assess how suggestions would fit with their goals (Ritchie et al. 2011). Hence, users with a higher level of ITSCC are more likely to view gain-framed suggestion messages as presenting an opportunity to reap benefits from changing their behaviors to improve themselves as IT users. This fit should motivate users to engage in behavioral adaptation. This argument would be coherent with the findings that individuals with a higher level of clarity over themselves are more likely to engage in activities when receiving feedback that fits with the self-improvement goals they have set for themselves (Soneji et al. 2015).

Meanwhile, loss-framed messages should be less effective on users with a higher level of ITSCC. This is because individuals with a higher level of clarity over themselves are more confident in their actions (Duan et al. 2021). This confidence would make users with a higher level of ITSCC more likely to believe that their use of SNS, prior to being exposed to the message, is already appropriate. Therefore, they are less likely to have negative consequences from it. Hence, users with a higher level of ITSCC are more likely to find that loss-framed messages fit to a lesser extent with their self-promotion focus. Thus, the lack of fit between users with a higher level of ITSCC's self-improvement goals and loss-framed messages would reduce the motivation to perform behavioral adaptation following exposure to the message. We, therefore, posit that:

H2: For SNS users with higher levels of ITSCC, gain-framed suggestion messages are more effective compared to loss-framed messages.

For users with a lower level of ITSCC, loss-framed messages should be more effective than gain-framed messages. This is because individuals with a lower level of clarity over themselves consider what they have of clarity over themselves to be a scarce resource, which they aim to

preserve (Emery et al. 2015). This makes them seek to maintain their self-perception balance and have a higher protection-focus (Light 2017). Users with lower levels of ITSCC are hence more likely to set IT use goals for themselves aimed at preserving their balance in their perception of themselves as IT users.

A loss-framed message presenting users with the opportunity to avoid negative consequences from failing to adapt themselves would hence be congruent with the goals of users with lower self-concept clarity, which is to keep the negative beliefs out of their IT self-concept. This would make users with a lower level of ITSCC view loss-framed suggestion messages as fitting with their protection-focus, making them more motivated to engage in behavioral adaptation.

Moreover, having lower clarity over themselves makes individuals more reluctant to include new beliefs toward themselves, even if they are positive, within their self-concept out of fear that adding such beliefs would offset their clarity (Emery et al. 2023). This would make individuals with a lower level of ITSCC less likely to consider a gain-framed message as fitting with their goals of maintaining their clarity toward themselves. Users with lower levels of ITSCC should, therefore, be less likely to engage in behavioral adaptation following their exposure to a gain-framed message.

Hence, users with a lower level of ITSCC are more likely to engage in behavioral adaptation to achieve the SNS use goals suggested by the message when the message is loss-framed compared to when it is gain-framed. We, therefore, posit that:

H3: For SNS users with lower levels of ITSCC, loss-framed suggestion messages are more effective compared to gain-framed messages.

3.4 Methods

We tested our research model with a laboratory experiment. We based our experimental design on previous studies that tested interactions between individual characteristics and message framing in information systems (Lim and Noh 2017; Seo and Park 2019). Hence, we proposed a 2 (Higher and Lower ITSCC) x 2 (Gain-framed and Loss-framed) between-subject design that allows for a comparison of the effect of the two factors and their interactions. We assigned participants to one of the four conditions. The manipulations used in this experiment were inspired by previous studies that have manipulated SCC (Emery et al. 2015) and manipulated framing messages (Lim and Noh 2017; Xiao and Benbasat 2015). The experiment's main tasks, allowing us to capture and measure the dependent variable, were inspired by experiments that have studied the impact of an information system's dialogue features on behavioral adaptations (Cutumisu and Lou 2020; Cutumisu and Schwartz 2018).

3.4.1 Contextual IT artifact and task

The contextual IT artifact chosen for this study was the use of Twitter (now known as X), a microblogging SNS.[1] The content creation work task consisted of writing microblog posts. We asked participants to slip into the role of communication professionals tasked with composing microblog posts for an academic organization's official social media account. This task is realistic as organizational communications employees regularly perform this task within academic

[1] Data collection took place before the rebranding of Twitter to X, and Twitter is a brand that remains well-known by the public. We, therefore, refer to the platform as Twitter throughout the rest of the paper. To facilitate comprehension for participants, we referred to microblog posts as tweets and to Twitter users as Tweeters in the experimental material.

institutions. This approach was inspired by previous experiments where individuals were asked to create content on behalf of an organization (Kim et al. 2017).

3.4.2 Participant recruitment

We recruited adult participants on the micro-tasking platform Prolific.com. Studies have found that this platform obtains reliable samples representative of the population of individuals interacting with IT (Peer et al. 2017). Due to possible concerns over the honesty of participants recruited on micro-tasking platforms (Downs et al. 2010), we only invited participants with outstanding reputations (Peer et al. 2014). Hence, we only invited participants with a 95% or better approval rating as an online panelist. Since microblogging SNS is the exemplar IT for this study, we added a filter to restrain the sample frame to participants who had used Twitter in the past year. A summary of the filters applied within the platform is featured in Table 3-1.

Table 3-1: Participant filters for the Prolific.com platform

Screen area	**Selection criteria**
Age	Over 18
Use of Twitter	Active Twitter user in the past year
Approval rate	95% and above

3.4.3 IT self-concept clarity manipulation

To make causal claims regarding the role of ITSCC, we manipulated it. This is possible as the self is malleable (Oyserman et al. 2012). While the self-concept is a generally stable trait, traits within the self-concept are activated depending on contextual information (Markus and Wurf 1987). Therefore, traits can be temporarily activated to different levels by contextual cues. Researchers can, therefore, temporarily induce variance in the level of traits for individuals within experiments with priming manipulation (Wheeler et al. 2007). This notably applies to SCC, which

experimenters can manipulate using primes (Ayduk et al. 2009). Other studies within the IS field have shown that IT-specific traits can be manipulated through priming. For instance, Thatcher et al. (2018) manipulated IT mindfulness by adapting Langer (1989)'s priming manipulation to the IT use context, in the aim of temporarily activating the mindfulness trait.

We manipulated ITSCC by adapting it to our context a manipulation of SCC. Emery et al. (2015) original manipulation of SCC asks participants to think of the different traits and competencies they believe to have in their sense of self. In the Lower SCC Condition, participants are asked to select two traits and write about how these two traits conflict with one another. In the Higher SCC condition, participants are asked to select two traits and write about how these two traits complement one another.

This manipulation is applicable to ITSCC, considering that the IT self-concept is also composed of traits that can be either complementary or conflicting. Furthermore, just as was the case for the SCC manipulation, priming the user to focus on the incoherence between their traits should lead them to question certain of their traits, while priming their complementarity should lead them to strengthen their certainty over these traits. This manipulation should, therefore, affect both the coherence and certainty dimensions of ITSCC in the same direction. Furthermore, the self-concepts restrained to specific contexts, such as academia or the use of IT, are more situation-dependent (Shavelson et al. 1976).

We adapted this manipulation with the following approach: we asked participants to think about the different traits and competencies they possess as IT users. We then asked participants to select two traits and to write a short paragraph. In the Lower ITSCC condition, we asked participants to write a short paragraph on how these two traits conflict. In the Higher ITSCC

condition, we asked participants to write a short paragraph on how these two traits complement one another. We asked individuals to consider the different traits and competencies they possess as microblog SNS users. We then asked participants to write a short paragraph. We advised an approximate length of 100 words, a standard length among trait priming manipulations (Zhao et al. 2018). The instructions for this task are shown in Table 3-2. We carried out a pre-test of this manipulation prior to our experiment. We feature the results for the pre-test in Appendix 1.

Table 3-2: ITSCC manipulation instructions

Condition	**Instruction**
Please complete the following task to allow your supervisor to better know you as a tweeter.	
Lower ITSCC	Think about the traits and competencies you believe you have as a tweeter and select two beliefs that come into conflict with one another. For example: You believe that, as a tweeter, you are "Sociable" yet "Rude." You believe that, as a tweeter, you are "Pertinent" yet "Unnoticeable." Please write a short paragraph (advised length: 100 words) regarding the two beliefs about yourself as a tweeter you selected and explain how they conflict with one another.
Higher ITSCC	Think about the traits and competencies you believe you have as a tweeter and select two beliefs that complement one another. For example: You believe that, as a tweeter, you are "Sociable" and "Polite." You believe that, as a tweeter, you are "Pertinent" and "Engaging." Please write a short paragraph (advised length: 100 words) regarding the two beliefs about yourself as a tweeter you selected and explain how they complement one another.

3.4.4 Suggestion message framing manipulation

We also manipulated suggestion messages. We displayed suggestion messages to participants after they initially submitted their microblog posts. In the gain condition, we framed the messages to present the gain associated with following the suggestion. We exposed participants in the gain-framed condition to gain-framed suggestions, while participants in the

loss-framed condition were exposed to loss-framed suggestions for all microblog posts. This practice is in line with previous experiments on message framing (Lim and Noh 2017).

The suggestions were based on industry best practices to improve professional microblog post quality. Microblog post quality comprises readability and content richness (Duan et al. 2012). Readability refers to the extent to which a microblog post is easy to read, while content richness refers to the extent to which a microblog post contains pertinent information.

The first suggestion was that hashtags should be used, but in moderation (Spice 2012). Studies on microblog post content quality have put forward that using hashtags makes posts appear to be focused on a particular subject. However, utilizing a large number of hashtags can reduce the readability of the microblog post and leave the user with the perception that the microblog post is overloading them with useless information rather than focusing on a subject. The best practice surrounding hashtags is to include them moderately in each microblog post (Twitter 2022). Therefore, our messages suggested that our participants include two hashtags per microblog post.

The second suggestion was that the number of characters in a post should be used concisely (Twitter 2022). The readability of a microblog post is increased when users can generate their message using enough characters so that the message is intelligible rather than using the character limit to its full extent. The best practice surrounding characters is to moderate their use to approximately 100 characters per microblog post (Hootsuite 2022). Therefore, our messages suggested that our participants include between 90 and 100 characters per microblog post.

Considering that participants could input values under or above the suggested values in both suggestions, we provided messages where the meaning of gains and losses could apply in both cases. A panel of three Ph.D. students in management and a psychometric evaluation expert validated that, for each suggestion, the message meaning of the gain and loss term would be maintained for cases where the input would be smaller or greater than the suggested value. The messages are featured in Table 3-3.

Table 3-3: Frame suggestions manipulations

Subject	**Frame**	**Message**
Hashtags	Gain	Consider using two hashtags per tweet. Doing so will make you appear as a **focused** tweeter.
Hashtags	Loss	Consider using two hashtags per tweet. Doing otherwise will make you appear as an **unfocused** tweeter.
Characters	Gain	Consider using between 90 and 100 characters per tweet. Doing so will make you appear as a **clear** tweeter.
Characters	Loss	Consider using between 90 and 100 characters per tweet. Doing otherwise make you appear as an **unclear** tweeter.

3.4.5 Manipulation checks

To improve the validity of our study, we performed validation checks. For the ITSCC manipulation, we asked participants to answer the ITSCC scale developed by Welt and Bassellier (2023), following their completion of the priming manipulation task. For the framing manipulations, we asked participants whether they agreed if the messages' framing corresponded to gain framing or loss framing by using the dichotomous questions featured in Table 3-4 after each message. This approach has been used for IS experiments to evaluate message framing (Xiao and Benbasat 2015).

Table 3-4: Frame suggestions manipulation-check

General question	Answer option
I feel …	… the suggestion message's wording highlighted the negative consequences of not following the suggestion. or … the suggestion message's wording highlighted the positive consequences of following the suggestion.

3.4.6 Dependent variable

This study focuses on the effectiveness of framed suggestion messages in generating the users' adaptation behavior. We operationalize this concept with the revisions made by users. Revisions have previously been used in experiments interested in learning behaviors (Cutumisu and Lou 2020). Indeed, revising one's work following exposure to suggestion enacts newly acquired knowledge. It is behavior the user carries out to use the system as expected in response to their exposure to a suggestion. When performing revisions following suggestions, individuals effectively modify their behavior following their exposure to the message, which is a valid example of behavioral adaptation (Cutumisu and Lou 2020). Implementing revisions implies that the users have made efforts to make their use behavior of the SNS fit their task requirements.

The variable is a dichotomous variable aggregation, counting the frequency of microblog posts modified following the suggestion after exposure to the message. We evaluated whether, yes (1) or no (0), each microblog post submitted by the participants had been effectively revised, compared with the initial post, by following the suggestion to which they were exposed. In cases where the initial post contained an input lower than the suggested input for that subject (hashtag or character), the input had to be increased in the final submission to be considered effectively revised. Similarly, in cases where the initial post contained an input higher than the suggested

one, the input had to be decreased in the final submission to be considered effectively revised. We then counted the number of revisions for each participant. This variable's range is hence between 0 and 2. Aggregating the number of revisions is consistent with previous studies on revisions (Cutumisu and Schwartz 2018).

3.4.7 Procedure

Table 3-5: Experiment breakdown

Stage	order	Action
Pre task	1	Participants are recruited from a web panel and directed to the online experiment webpage.
	2	Participants are exposed to the experiment consent form.
	3	Participants complete a form asking them for their demographic information and microblog SNS use.
	4	Participants are exposed to a scenario where they have been recruited as new communication consultants for an academic institution.
	5	Participants complete the ITSCC manipulation task asking them to write a short paragraph about themselves as microblog SNS users.
Main task	6	Participants are told to compose a first microblog post based on the provided material.
	7	Participants are exposed to a first suggestion, framed in accordance with their condition.
	8	Participants are given an opportunity to revise their first microblog post.
	9	Participants are told to compose a second microblog post based on the provided material.
	10	Participants are exposed to a second suggestion, framed as the first one.
	11	Participants are allowed to revise their second microblog post.
	12	Participants complete the task.

The following section describes the experimental protocol. The breakdown of the actions composing the experiment is summarized in Table 3-5. We divided them into two stages, the pre-task and the main task.

3.4.7.1 Pre-task

First, we invited participants to consent. Participants then took part in a questionnaire. We asked participants to answer demographic questions to better understand their demographic profiles. We also asked questions regarding their microblog SNS use experience.

We then exposed participants to the task scenario. We emulated a situation where employees use SNS for work. We engaged participants in a scenario where they had to perform microblog post composition tasks for an academic organization. This approach is based on previous studies using scenarios to emulate the use of IT for work (Weinert et al. 2022). We first exposed the participants to background information regarding the scenario, including the institution's values and organizational social media policies. This information is inspired by the university's social media institutional guidelines. The university's Institutional Communications Department granted permission to use this copyrighted material within our experiment. The detailed scenario can be found in Appendix 2. Based on their condition assignment, participants then engaged in the ITSCC manipulation priming task described in the "IT Self-Concept Clarity manipulation" section.

3.4.7.2 Main task

For the main task, we instructed participants on how to compose a first microblog post. The guidelines indicated they had to respect Twitter's 280-characters limit, effective at the time. We also asked them to utilize standard Twitter textual syntax, including hashtags (#) and mentions (@), but we told them they could not include media. We also informed them that they would be able to revise their post based on a suggestion after submitting it.

We instructed participants that the microblog post must celebrate a news article's content. To increase the realism of this task, we selected actual university press releases celebrating the university's accomplishment in the obtention of funding and sustainability initiatives. The university's Institutional Communications Department permitted us to use this copyrighted material in our experiment. The university's social media guidelines recommend posting about such press releases. All participants composed microblog posts regarding the same press releases.

After submitting their first microblog post, we exposed participants to one of the suggestions described in the "Suggestion message manipulation" section based on their condition assignment. They could revise their microblog post or move directly on to the next microblog post. We then exposed participants to the same microblog post instructions regarding another press release. After submitting their second microblog post, we exposed participants to a second suggestion. This suggestion has the same framing as the first one, an approach consistent with previous experiments on message framing (Lim and Noh 2017). Participants were once again allowed to revise their microblog posts. They then submitted their final answers.

3.5 Results analysis

3.5.1 Participants and answers

Table 3-6: Demographics

Variable	Value	Frequency	Percentage
Gender	Female	42	33.87%
	Male	82	66.13%
Location	Africa	10	8.06%
	Europe	92	74.19%
	North America	17	13.71%
	South America/Central America	4	3.23%
	Other	1	0.81%
Age Group	20 and under	3	2.48%
	21-30	66	53.23%
	31-40	35	28.23%
	41-50	12	9.68%
	51-60	5	4.03%
	61 and above	3	2.42%
Education	Graduate Degree	28	22.58%
	Bachelor's Degree	62	50.00%
	High School	33	26.61%
	Trade School	1	0.81%
Employed full Time	No	50	40.32%
	Yes	74	59.68%
Student Status	No	81	65.32%
	Yes	43	34.68%
Experience using Twitter for work	No	66	53.23%
	Yes	58	46.77%
Tweeting frequency over the las year	1-3 Times	25	20.16%
	4-20 Times	25	20.16%
	20-100 Times	47	37.90%
	More than a 100 times	27	21.77%

For the main study, we recruited 211 participants on Prolific.com using the criteria mentioned in the Participant Recruitment section. 2 participants removed their answers following the completion of the experiment. We removed 17 answers from participants who provided incomplete answers and 5 answers after identifying participants who completed the experiment with abnormal speed using Grubb's test. We also removed 23 answers from participants who did not respect instructions. The criteria utilized to identify these answers are found in Appendix 3. While removing those observations reduces the statistical power of our findings, this was necessary to ensure the data quality and validity of our results analysis. Furthermore, this proportion of participants excluded for not respecting instructions appears consistent with those excluded in previous studies attempting to perform similar priming manipulation in online studies using participants from similar microtask website (e.g.: Keefer et al. 2014).

Our research aims to identify the effect of our manipulations on individuals with suboptimal rather than optimal behaviors. We, therefore, removed from our analysis answers from participants whose initial tweet composition contained the number of hashtags or characters corresponding to the one featured in the suggestion message. This approach has been used in previous studies interested in the effect of suggestions (You et al. 2022). We removed answers from 38 participants who provided the suggested number of hashtags in their first microblog posts, and 2 who provided the suggested number of characters in their second microblog post. Hence, 124 answers remained for our main analysis. The demographic for the participants who provided these answers is displayed in Table 3-6.

3.5.2 Manipulation checks

We verified the effectiveness of our manipulations by testing the manipulation checks described in the experiment design section.

3.5.2.1 ITSCC

The first manipulation check was for the ITSCC manipulation, which required participants to complete the ITSCC scale. More details regarding the descriptive statistics for this test are found in Appendix 4. We compared valid answers from participants assigned to the Lower ITSCC and the Higher ITSCC conditions. Since ITSCC is a multidimensional construct, we conducted a MANOVA test on both dimensions. The results of this test were significant within a 99% confidence interval ($F(1,122)=8.62$, $p<0.001$). We then conducted an ANOVA test for both dimensions to get more insight into the effect on each sub-dimension. For the certainty dimension, the ANOVA showed a significant effect within a 99% confidence interval ($F(1,122)=7.31$, $p<0.01$). Also, For the coherence dimension, the ANOVA showed a significant effect within a 99% confidence interval ($F(1,122)=15.41$, $p<0.001$). These results confirm that the manipulation had an effect on all ITSCC subdimensions, confirming the ITSCC manipulation's effectiveness in the context of our experiment. Also, the Cronbach Alpha was superior to the recommended threshold of 0.7 for both certainty (0.93) and coherence (0.76) (Cortina 1993). This confirms the internal consistency of Welt and Bassellier (2023)'s ITSCC scale in this setting.

3.5.2.2 Message Framing

Our analysis showed that the manipulation for framing the suggestion message was effective. ANOVA tests showed it was significantly more likely for the participants to perceive the suggestion message they read as highlighting the loss associated with the negative consequences

of failing to follow the suggestion in the loss-framed condition than in the gain-framed condition. This was the case for the first microblog post ($F(1,122)=21.35$, $p<0.001$) and the second microblog post ($F(1,122)=18.28$, $p<0.001$). More details regarding the descriptive statistics for this test are found in Appendix 5.

3.5.3 Dependent variable

Table 3-7: Revision frequency descriptive statistics for each condition

ITSCC Condition	Frame Condition	n	Mean	SD	SE
Higher ITSCC	Gain-framed	29	1.52	0.51	0.09
Higher ITSCC	Loss-framed	36	1.17	0.65	0.11
Lower ITSCC	Gain-framed	29	1.34	0.61	0.11
Lower ITSCC	Loss-framed	30	1.47	0.63	0.11
n= sample size, SD= Standard Deviation, SE= Standard Error.					

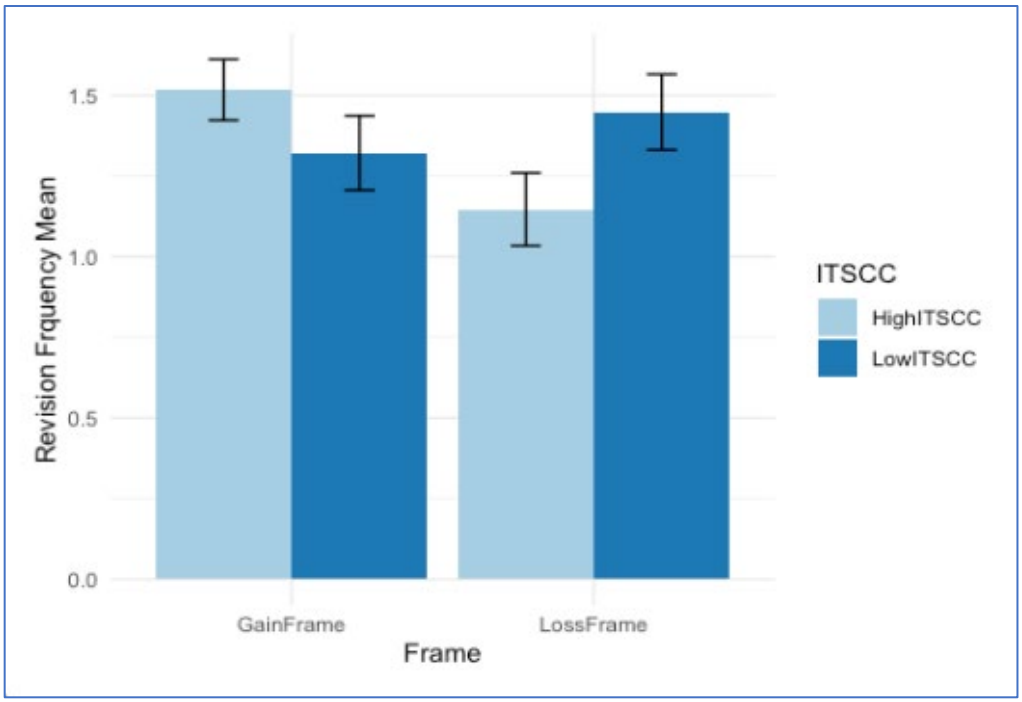

Figure 3-1: Revision frequency mean and standard error for each condition.

The dependent variable for the experiment is the aggregated frequency of user revisions. The variable's overall mean was 1.36 with a standard deviation of 0.62. The descriptive statistics

for each condition are featured in Table 3-7. The means for each condition are plotted in Figure 3-1. Additional descriptive statistics regarding the input of interest for each post are provided in Appendix 6.

3.5.4 Results analysis

We aimed to analyze the results by using an ANCOVA model where the independent variables would be the ITSCC condition, the Frame condition, and the dependent variable would be revision frequency. Using an aggregated variable is justified, as we intended to assess the cumulative impacts of the ITSCC manipulations on participants (Tabachnick et al. 2013). Furthermore, given our interest in comparison between groups, using an ANCOVA model is appropriate for making this comparison. We, however, acknowledge that the ANCOVA model with an outcome of a small range increases the risk of violating the model's assumptions. We, therefore, tested whether we respected ANCOVA's assumption of variance equality and the presence of outliers. The test result was not significant ($F(3,120)=0.149$ $p>0.9$), meaning the homogeneity of variance assumption of the ANCOVA model would be respected. An analysis of standardized residuals also showed no outliers within the answers.

Table 3-8: ANCOVA model results

Variable	**Sum of square**	**DF**	**F value**	**Significance**
Intercept	0.103	1	0.298	NS
Frame condition	1.064	1	3.067	p<0.1
ITSCC condition	1.014	1	2.923	p<0.1
Number of hashtags inputted initially for Tweet1	1.131	1	3.260	P<0.1
Number of Character inputted initially for Tweet2	1.683	1	4.849	P<0.05
Experience using Twitter for work	0.643	1	1.853	NS
Frame x ITSCC	1.646	1	4.742	P<0.05
Residuals	40.599	117		
DF = Degrees of freedom				

We performed an ANCOVA model where we controlled for their inputs, those being the number of hashtags inputted in the first microblog post, the number of characters inputted in the second post. We also controlled for whether the participant had experience using Twitter for work. The result for this model is features in Table 3-8. The interaction effect between ITSCC and framing was significant ($F(1,117)=4.74$, $p<0.05$). This indicates the need for a simple main effect analysis to understand the interaction between ITSCC and framing better. We also note that the number of characters input in the second microblog post ($F(1,117)=4.84$, $p<0.05$) was significant within a 95% confidence interval while that the number of hashtag input in the first microblog post ($F(1,117)=3.26$ $p<0.1$) was only significant within a 90% confidence interval.

We first looked at the simple main effect of ITSCC on each framing condition. The analysis shows that revision frequency was significantly higher when users with lower levels of ITSCC were exposed to loss-framed messages compared to users with higher levels of ITSCC ($F(1,61)=5.23$, $p<0.05$) providing support for H1a. The partial η^2 was of 0.06, indicating a moderate effect size. We also note that the number of characters input in the second microblog post ($F(1,61)=5.68$, $p<0.05$) and the number of hashtag input in the first microblog post ($F(1,61)=5.16$, $p<0.05$) were significant while experience using Twitter for work was not significant. With regards to H1b, the results did not support a significant difference between users with higher and lower levels of ITSCC exposed to gain-framed messages. We, therefore, do not have support for H1b.

We then performed a simple main effect analysis for both the Lower and Higher ITSCC conditions. The analysis shows that for the Higher ITSCC condition, the dependent variables were significantly superior for the Gain-framed condition compared to the Loss-framed condition ($F(1,60)=4.90$, $p<0.05$). This supports our hypothesis (H2) that gain-framed messages are more

effective than loss-framed messages for users with a higher level of ITSCC. The partial η^2 was of 0.09, indicating a moderate effect size. We also note that the number of characters input in the second microblog post ($F(1,60)=4.70$, $p<0.05$) was significant within a 95% confidence interval and having professional experience with Twitter ($F(1,60)=3.31$, $p<0.1$) was significant within a 90% confidence interval.

Meanwhile, the analysis for the Lower ITSCC condition showed no significant difference between the framing conditions. Hence, we do not have support for our hypothesis (H3) that loss-framed messages are more effective than gain-framed messages for individuals with lower levels of ITSCC. The hypotheses' test results are displayed in Table 3-9.

Table 3-9: Hypotheses' test results summary

No	Hypothesis	Support
H1a	Loss-framed suggestion messages are more effective on SNS users with lower levels of ITSCC compared to SNS users with higher levels of ITSCC.	Supported
H1b	Gain-framed suggestion messages are more effective on SNS users with lower levels of ITSCC compared to SNS users with higher levels of ITSCC.	Not supported
H2	For SNS users with higher levels of ITSCC, gain-framed suggestion messages are more effective compared to loss-framed messages.	Supported
H3	For SNS users with lower levels of ITSCC, loss-framed suggestion messages are more effective compared to gain-framed messages.	Not supported

3.6 Discussion of findings

Our findings illustrate that the beliefs individuals develop toward themselves as IT users, with varying clarity levels, can potentially lead them to respond differently to system dialogue features. In our study, varying levels of ITSCC made individuals respond differently to messages framed as either gains or losses. However, we found support for H1a and H2 with only moderate effects. Indeed, since a power analysis revealed that at least 64 participants would be required

to detect such effects with a statistical power above 0.80, we must approach our results by considering this issue. The results, nevertheless, provide interesting insights.

The superior effectiveness of loss-framed messages on individuals with a lower level of ITSCC compared to individuals with a higher level of ITSCC shows that the effectiveness of this framing approach varies depending on the level of ITSCC. This is because individuals with a higher level of ITSCC see a limited fit with their goals from such loss-framed messages. Meanwhile, we observed no difference in the effectiveness of gain-framed messages across ITSCC conditions. An explanation for this could be that participants in both conditions estimated that gains were pertinent to their goals in an equivalent fashion.

More insights are provided by looking at the outcomes specific to each ITSCC condition. Notably, gain-framed messages were more effective than loss-framed messages for users in the Higher ITSCC condition. This shows that individuals with a higher level of ITSCC are more likely to see benefits from gain-framed messages as having a greater fit with their self-promotion goals compared to the avoidance of a loss from loss-framed messages. Furthermore, this would be compatible with the findings that individuals with a higher level of SCC have a greater sense of autonomy (Schwartz et al. 2017). Our findings corroborate that having a greater level of ITSCC is associated with a greater sense of agency with regard to deciding to implement or not a recommendation framed in a manner that does not fit with their goals.

Meanwhile, there was no significant difference between the effectiveness of loss-framed messages and gain-framed messages for users with a lower level of ITSCC. An explanation for this could be that individuals with a lower level of ITSCC see the goal of re-establishing balance within their IT self-concept to be on par with their goal of accomplishing the task.

These results answer our research question by showing that the effectiveness of a framed suggestion message varies depending on the user's ITSCC level. Gain-framed messages fit with the goals-setting focus of users in both higher and lower levels of ITSCC. Meanwhile, loss-framed messages do not fit with the goals of users with higher levels of ITSCC. These results suggest that exposing gain-framed suggestion messages to support users carrying out SNS content creation tasks would be the most effective solution.

3.6.1 Contribution to research

This study provides several contributions to current discussions unfolding in the IS domain. It has both theoretical and empirical contributions to the IT consumerization stream. First, by utilizing a manipulation of ITSCC within the use of SNS for work tasks, we highlight the importance of understanding the individual characteristics of users and the causal impact they can have on their behaviors when using consumer IT for work. The literature on IT consumerization has shown that individuals' interactions with consumer IT, such as SNS, across multiple contexts lead them to develop multiple beliefs about themselves as IT users (Polites et al. 2018). These beliefs may be organized with varying clarity levels (Welt and Bassellier 2023). Our study shows that varying levels of ITSCC can potentially impact the user's interaction with the IT when completing work tasks. Furthermore, our study controlled for professional experience using Twitter, which was not statistically significant. This shows that due to users' complex relationship with SNS, their experience cannot be used alone to predict their interactions with IT in a work context.

By taking an interest in the interaction between ITSCC and persuasive communication design elements, we highlight the importance of understanding the impact of suggestion messages' design features depending on individual characteristics. The design of a suggestion

message can impact the decision made by recipients depending on their individual characteristics (Lim and Noh 2017; Rothman et al. 2006). The interaction between ITSCC and message framing puts forward a situation where the use of gain and loss framing design features makes communications more effective depending on the user's characteristics and how they fit with their goals. Our results are consistent with previous studies where gain-framed messages appear as the most effective design option in a context without imminent threat to users.

Finally, studying the impact of those factors on individual adaptation, as observed through revisions, provides valuable insights regarding how individuals adapt themselves when using consumer IT for work. Indeed, we put forward the notion that a user's adaptation can occur differently depending on their individual characteristics, such as ITSCC, and the stimuli, such as framed suggestion messages, to which they are exposed. This answers the call to research the adaptation of individuals through their interactions with technology across contexts (Schmitz et al. 2016).

3.6.2 Contribution to practice

This study has implications for users and managers. Indeed, managers should be mindful of workers' beliefs toward themselves as IT users before using consumer IT in the workplace. The organization of such beliefs determines a user's response to different persuasive communication approaches. While loss-framed perceptions have been favored to design suggestions relating to security threats, our studies show that such message framing is not the most efficient in the context of SNS content creation tasks. Our findings show that messages with such framing may be more ineffective for users with higher levels of ITSCC. Meanwhile, we note that gain-framed messages were effective in both groups. Hence, using gain-framed messages may be more

effective for system designers. Such aspects allow for designing suggestions to facilitate workers' adaptation to consumer IT within the work context.

3.6.3 Limits

We should mention the limitations associated with this study. First, we note that our study focused on the content creation aspect of SNS use and did not encompass the social relationship maintenance aspect. While the relationships explored within this study are likely to apply to other contexts of SNS use and other consumer IT, our study's design may need to be adapted to address the specificities of these contexts.

We also note that our participants were recruited from a micro-task platform. While having professional experience with Twitter did not significantly affect our results, it is of concern as to whether the results would be the same if we experimented with a sample only composed of professional users of SNS.

We also mention that our study was conducted only at one occurrence in time. There is, therefore, a question of whether such results would be upheld over time. If organizations were to implement framed messages within an SMMS, users would be repeatedly exposed to such messages. This might create habituation and alter the perception of those messages. Furthermore, these messages might alter users' perception of themselves, changing their ITSCC. Future studies could look at the evolution of ITSCC and the effectiveness of framed messages using a longitudinal design.

Finally, as we mentioned in the interpretation of our results, our study does not have the sample size to detect moderate effect size with a power of 0.8. This would mean that future studies with larger samples should be conducted to further confirm this study's findings.

3.7 Conclusion

The increased use of consumer IT, such as SNS, to perform work tasks makes adapting IT use to the work context a phenomenon of interest. Organizations using SNS for work tasks often have limited access to knowledgeable users and users who are able to train other users. In this context, automating systems providing suggestions to SNS content creators can bring considerable value to organizations. Studying under which conditions automated suggestion messages can be more effective allows for the optimization of the performance of users and organizations to benefit. Hence, this requires an understanding of the user and their interactions with message features. Due to the use of these IT across different contexts and for different purposes, the effectiveness of these messages varies depending on the characteristics of users. This study puts forward the role of ITSCC in this context and how framed messages can have varying effectiveness depending on this characteristic.

3.8 Appendix 1: ITSCC manipulation pre-test

To test the ITSCC manipulation prior to our experiment, we carried out a pre-test. We recruited 89 participants on Prolific.com. Participants had to be active Twitter users over 18 years of age and have an acceptance rate of over 95% to be recruited. The participants were randomly assigned to the two conditions. After removing participants who provided incomplete answers or failed to follow the instructions, 81 valid answers remained for analysis. The participants' demographic data is displayed in Table 3-10. The descriptive statistics are displayed in Table 3-11. The certainty and coherence first-order constructs have respective CA values of 0.91 and 0.82. These results are greater than the advised threshold of 0.7 (Cortina, 1993).

Table 3-10: Demographics for manipulation pre-test

Variable	**Value**	**Frequency**	**Percentage (%)**
Gender	Female	31	38.27
	Male	50	61.73
Location	Europe	69	85.19
	North America	9	11.11
	Other	3	3.70
Age Group	20-30	26	32.10
	31-40	31	38.27
	41-50	14	17.28
	51-60	9	11.11
	Under 20	1	1.23
Education	Bachelor's Degree	37	45.68
	Graduate Degree	17	20.99
	High School	26	32.10
	Trade School	1	1.23
	more than 100 times	18	22.22

Table 3-11: ITSCC manipulation pre-test descriptive statistics

CA	Item no	Item	Mean	SD	Answer options
ITSCC - Certainty					
0.91	ITSCC_CE1	How confident are you of your thoughts and feelings toward yourself as a tweeter?	5.64	1.18	7 points Likert scale, from "Very little" to "Very much"
	ITSCC_CE2	How certain are you of your thoughts and feelings toward yourself as a tweeter?	5.63	1.22	
	ITSCC_CE3	How sure are you that your thoughts and feelings toward yourself as a tweeter are accurate?	5.6	1.19	
ITSCC - Coherence					
0.82	ITSCC_CO1	To what extent are you conflicted when you think about yourself as a tweeter? *	5.23	1.52	7 points Likert scale, from "Very little" to "Very much"
	ITSCC_CO2	To what extent are your thoughts and feelings toward yourself as a tweeter one-sided? *	4.91	1.65	
	ITSCC_CO3	To what extent is your reaction toward yourself as a tweeter confused? *	5.68	1.45	
CA= Cronbach's Alpha, SD=Standard Deviation, * = Reverse-coded items.					

We then tested the effectiveness of our manipulation. Since ITSCC is a multidimensional construct, we carried out a MANOVA analysis for all the dimensions, followed by ANOVA for each dimension, as performed in other studies (e.g., Cummings and Dennis 2018). The MANOVA test showed a significant effect of the manipulation on both dimensions ($F(1,79) = 3.96$, $p<0.05$). We then conducted an ANOVA test for each dimension. For the certainty dimension, the ANOVA showed a significant effect within a 95% confidence interval ($F(1,79) = 4.045$, $p<0.05$). Also, for the coherence dimension, the ANOVA showed a significant effect within a 95% confidence interval ($F(1,79) = 6.668$, $p<0.05$). These results confirmed the effectiveness of these manipulation.

3.9 Appendix 2: Experiment material

The following section features the material to which participants were exposed during the experiment. The name of the university has been replaced by XXXX University in the material provided in this document.

3.9.1 Scenario

Please adhere to the following fictitious scenario for the rest of the study:

Welcome,

You have newly been hired as a communication consultant for XXXX University's communication department. Your main task will be to generate tweets for the University's main Twitter account.

XXXX 's centrally managed social media accounts are carefully managed by the social media team to preserve the trust that we've established with our audiences.

We have an audience that expects an authentic, authoritative voice on news and general information about the university.

Through our stories and news on successes of the University community, or campus life, we are proud promoters of the community's achievements, initiatives, and major University events.

Remember: You're speaking on behalf of one of the world's top universities! Is your post error-free, both factually and grammatically? What you post can be shared instantly and live online indefinitely.

In the next pages, you will be asked questions regarding your experience with Twitter, your perception of yourself as a Tweeter. You will then be asked to compose 2 tweets relating to news articles regarding the university. After composing each tweet, you will be given an opportunity to revise your tweet based on a suggestion.

3.10 Appendix 3: Validation of instructions

As stated in the participants section, we excluded answers from participants who did not follow instructions regarding the tasks they were asked to perform. This allows us to remove noise within our data and to make appropriate comparisons. Here, we describe the criteria that were used to identify those observations when performing a manual validation of data.

The ITSCC priming manipulation instructed participants to input a paragraph where they would describe two traits they have as a Twitter user. Participants provided inputs that respected the following criteria:

- **The input for the ITSCC manipulation task had to be relevant.** Writing an impertinent message instead of taking part in the manipulation would not allow priming of the ITSCC trait.
- **The input for the ITSCC manipulation had to be reflective of the user's self.** The input had to be regarding the user and their beliefs toward themselves to prime the organization of their beliefs. Describing Twitter in general or what are an organization's expectations does not allow participants to reflect on the organization's clarity of their own traits as Twitter users.
- **The input for the ITSCC manipulation had to be about Twitter**. The input had to relate to Twitter. In this case, the ITSCC of the user relates to the organization of traits specific to Twitter. A paragraph with no reference to the theme of Twitter would not allow priming the ITSCC but rather the SCC.
- **The input for the ITSCC manipulation, had to be written by participants not automated systems**. Observations were removed when showing unusual and suspicious patterns associated with automated systems such as generative Artificial Intelligence (AI) and robots

(e.g., inputs that were undeniably similar in terms of both topic and formulation across different participants, inputs containing language known to be provided by generative AI.)

3.11 Appendix 4: ITSCC manipulation check results

Manipulation Check. Table 3-12 provides the items of the ITSCC scale. The table also features the descriptive statistics for this study.

Table 3-12: ITSCC manipulation check descriptive statistics

Item no	Item	Mean	SD	Answer options
Certainty: Lower ITSCC mean: 5.11, Higher ITSCC mean: 5.64				
ITSCC_CE1	How confident are you of your thoughts and feelings toward yourself as a tweeter?	5.38	1.19	7 points Likert scale, from "Very little" to "Very much"
ITSCC_CE2	How certain are you of your thoughts and feelings toward yourself as a tweeter?	5.35	1.23	
ITSCC_CE3	How sure are you that your thoughts and feelings toward yourself as a tweeter are accurate?	5.43	1.20	
Coherence: Lower ITSCC mean: 4.81, Higher ITSCC mean: 5.65				
ITSCC_CO1	To what extent are you conflicted when you think about yourself as a tweeter? *	5.45	1.5	7 points Likert scale, from "Very little" to "Very much"
ITSCC_CO2	To what extent are your thoughts and feelings toward yourself as a tweeter one-sided? *	5.26	1.64	
ITSCC_CO3	To what extent is your reaction toward yourself as a tweeter confused? *	5.04	1.47	
* = Reverse-coded items.				

3.12 Appendix 5: Framing manipulation check results

Table 3-13 displays the answer rates to the questions asked for the framing manipulation check. Results are displayed for both the first and second tweets. We note the higher percentage of participants viewing a loss-framed message positively. Feedback from a face validity study indicated that this is due to participants viewing such suggestion messages as benevolent, focusing on the positive aspect, even when negatively framed.

Table 3-13: Framing manipulation check

Dichotomous answer question	**Tweet 1**	**Tweet 2**
	Rate	Rate
I feel the suggestion message's wording highlighted the negative consequences of not following the suggestion.	Loss Condition: 45.45%	Loss Condition: 56.06%
	Gain condition: 10.34%	Gain condition: 20.69%
or		
I feel the suggestion message's wording highlighted the positive consequences of following the suggestion.	Loss Condition: 54.54%	Loss Condition: 43.94%
	Gain condition: 89.65%	Gain condition: 79.31%

3.13 Appendix 6: Microblog post descriptive statistics

The following tables feature descriptive statistics regarding the variable of interest for each post. Table 3-14 provides statistics regarding the number of hashtags in the first post before and after exposure to the suggestion message. Meanwhile, Table 3-15 provides statistics regarding the number of characters in the second post before and after exposure to the suggestion message.

Table 3-14: Descriptive statics for number of hashtags in post 1

			Number of hashtags in initial post					**Number of hashtags in revised post**				
ITSCC	**Frame**	**n**	**Mean**	**SD**	**SE**	**Min**	**Max**	**Mean**	**SD**	**SE**	**Min**	**Max**
Higher ITSCC	Gain-Framed	29	1.03	1.32	0.25	0	5	2.03	0.42	0.08	1	3
Higher ITSCC	Loss-Framed	36	0.89	1.24	0.21	0	5	1.94	0.83	0.14	0	5
Lower ITSCC	Gain-Framed	29	1.24	1.60	0.30	0	5	2.07	0.75	0.14	0	4
Lower ITSCC	Loss-Framed	30	0.87	1.33	0.24	0	4	2.23	0.63	0.11	1	4
n= Numbers of cases, SD= Standard deviation, SE=Standard Error.												

Table 3-15: Descriptive statics for number of characters in post 2

			Number of characters in initial post					**Number of characters in revised post**				
ITSCC	**Frame**	**n**	**Mean**	**SD**	**SE**	**Min**	**Max**	**Mean**	**SD**	**SE**	**Min**	**Max**
Higher ITSCC	Gain-Framed	29	231	52.74	9.79	104	280	201.86	61.02	11.33	96	280
Higher ITSCC	Loss-Framed	36	213.92	54.15	9.02	80	280	202.08	55.54	9.26	80	280
Lower ITSCC	Gain-Framed	29	224.52	53.87	10	106	280	207.45	60.32	11.20	90	280
Lower ITSCC	Loss-Framed	30	203.90	66.91	12.22	64	280	174.87	62.51	11.41	80	280
n= Numbers of cases, SD= Standard deviation, SE=Standard Error.												

3.14 References

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Discussion

This thesis aimed to further understand IT consumerization, a trend that impacts users and their work in organizations. This trend is widespread in the post-COVID-19 pandemic era, where the use of consumer IT to complete work tasks has become the norm for a large segment of the working population. Our approach was to bring attention to the clarity of the organization of the beliefs that users generate toward themselves as IT users through their use of IT across multiple contexts. The aim of this approach was to better understand how users adapt themselves when using consumer IT for work.

Our studies meet the three goals raised in Chapter 1: "Introduction and background." The first was to establish a conceptual and operational definition of the clarity of the organization of users' beliefs toward themselves as IT users. The second was to understand further the process through which users adapt themselves while facing technostress from using consumer IT to complete work tasks. We met these two goals in Chapter 2: "IT self-concept clarity: definition measure," the first empirical chapter of this thesis. The third goal was to address organizations' challenges in supporting users in their adaptation to the use of consumer IT to complete work tasks. We met this goal in Chapter 3: "Persuading content creators to adapt, the role of ITSCC," the second empirical chapter of this thesis.

In the following sections, we will first present arguments regarding the trustworthiness of our results. We will then recapitulate the key findings from the empirical chapters of this thesis and explain how they fulfilled our goals. We will contextualize these findings to highlight their broader impact on different literature streams. This includes contributions to the SCC literature,

the IT consumerization stream, and the IS literature regarding IT identity and the IT self-concept. We will finish by putting forward potential future studies to build on this thesis's findings.

Trust in our results

The methodological approach we utilized in our empirical studies in Chapter 2 and 3 aimed at inspiring trust in our results. Since we developed a new measure in Chapter 2, ensuring its validity was critical. We inspired our scale development and validation approach by using best practices (MacKenzie et al. 2011; Netemeyer et al. 2003) and recent IS publications that have validated construct measurement scales (Carter et al. 2020b; Craig et al. 2019; Thatcher et al. 2018). We tested face validity, measurement fit, and the utility for our new scale through multiple studies. This approach ensures that our measurement instrument for this construct respected commonly accepted validity criteria in the IS field, increasing trust in Chapter 2 and 3 findings that utilize this scale to explain outcomes.

The designs of our studies should also increase trust in our results. The test for the utility of ITSCC we carried out in Chapter 2 utilizes a longitudinal study design. We gathered data regarding beliefs during the first collection stage and data regarding behavior during the second collection stage, temporally separated by three weeks. Using such designs reinforces claims regarding the direction of variables collected in the first collection stage and their effect on variables in the second stage (Compeau et al. 1999). Furthermore, this study design reduces common method bias that can affect survey results (Podsakoff et al. 2003). Our longitudinal study design allows for improving trust in our findings regarding the role of ITSCC and the reliability of our results.

Our study in Chapter 3 utilized a manipulation of ITSCC, for which the effectiveness was validated using a manipulation check. Utilizing the manipulation of a trait allows for making a causal claim regarding the effect of this variable within an experimental setting (Thatcher et al. 2018). This design allows us to claim that ITSCC influences our outcomes of interest. Furthermore, we validated the manipulation of ITSCC to ensure its effectiveness. Before the experiment, we carried out a pre-test, that validated that our scale showed variation when exposed to this manipulation. Our approach of using a MANOVA test for the whole construct and an ANOVA test for each dimension allowed us to validate that this manipulation affected both the higher-level construct of clarity and also each of the subdimensions of coherence and certainty (Cummings and Dennis 2018). Finally, we performed a manipulation check during the experiment for which the MANOVA and ANOVA tests were significant. These results confirm that ITSCC was effectively manipulated within our experiment. This manipulation design and validation allow us to make causal claims regarding the effect of ITSCC on adaptation.

Furthermore, we performed our studies utilizing multiple consumer IT. This included smartphones, instant messaging applications, and SNS. Our results are consistent across these technologies, showing that ITSCC can play a role in the adaptation of users when using consumer IT for work. Consistency for multiple instances of consumer IT brings trust in the generalizability of results (Thatcher et al. 2018). This design shows that ITSCC plays a role in the adaptation process regarding the use of different consumer IT. Whether our findings would apply to other IT outside consumer IT is a question of interest. For instance, there is a question of whether our results would apply to enterprise IT such as Excel and ERP. While it would be possible for users to develop beliefs toward themselves as Excel or ERP users, it is questionable whether such

beliefs would be unclear. Studies regarding enterprise technologies, such as Office 365, which contains Excel, have shown that users usually have attitudinal beliefs that are generally uniformly positive regarding such technologies (Feng et al. 2022). This contrasts with consumer IT, such as smartphones and SNS, which have been used across multiple domains and are more likely to be associated with heterogeneous beliefs. We, therefore, cannot claim that our findings regarding the adaptation of users to consumer IT would apply to users using enterprise IT. The applicability of ITSCC in this context would have to be tested in future studies.

This section showcased how the approach we took ensures the validity of our findings and allows us to claim their trustworthiness. In the next sections, we will highlight how the content of these findings, when taken together, has broader implications for different themes.

SCC literature contributions

The findings from our studies contribute to the literature on SCC, where it was asked whether the clarity of the organization of domain-specific beliefs could affect behaviors in those domains (Schwartz et al. 2017). This is because our theoretical approach for this thesis was to conceptualize an IT domain-specific self-concept clarity by restricting SCC to the IT self-concept. Each of our empirical studies highlighted the role of ITSCC in models aiming to explain adaptation in the context of IT consumerization. Hence, the findings from these chapters bring forward the importance of considering the role of ITSCC in understanding adaptation in the context of IT consumerization. Furthermore, our findings are theoretically consistent with the literature on SCC. This shows that our studies, considering the specificities of the context of IT use, are pertinent to the SCC literature.

Our studies show different facets of ITSCC's role in the adaptation of users. The longitudinal study carried out in Chapter 2 shows that users' clarity toward themselves as IT users can be negatively affected when they are confronted with stress stemming from the use of consumer IT in the workplace. Being confronted with technostress leads users to add new tensions within the organization of their beliefs. Individuals who maintain a high level of ITSCC while being confronted with technostress can mobilize their knowledge better to innovate using IT when confronted with technostress. These findings align well with the finding that having a high level of SCC enables individuals to better process stimuli from their environment and find solutions to problems.

Chapter 3 highlights that the ITSCC level can potentially affects whether individuals adapt themselves when exposed to framed suggestion messages. More specifically, it showed that in our experiment, individuals with a higher level of ITSCC are adapting less when exposed to loss-framed messages. In contrast, users of low and high levels of ITSCC are more likely to adapt themselves when exposed to gain-framed messages. These results show that users with a higher level of ITSCC are as likely as those with a lower level of ITSCC to adapt themselves when receiving messages that promote goals congruent with self-expansion goals. In contrast, users with lower levels of ITSCC see loss-framed messages as congruent with their self-preservation goals. These findings align with SCC literature, where it was found that users with higher levels of SCC are more likely to adopt self-promotion goals that would be more congruent with gain-framed messages compared to loss-framed messages.

Both empirical studies have highlighted the potential utility of considering the role of ITSCC in understanding adaptation behavior in this context, validating the utility of

conceptualizing a context-specific SCC. Our results show that ITSCC can improve the predictive power of models explaining behaviors specifically in the IT use domain. This brings forward the importance of conceptualizing domain-specific constructs relating to the self to understand behaviors in specific domains better and avoid issues related to the poor predictability of general self-concept constructs in specific domains (Bong and Skaalvik 2003). These findings, therefore, contribute to the SCC literature by showing the role of a domain-specific SCC in explaining behavior in a specific domain.

IT consumerization stream contributions

The study of IT consumerization differentiates itself from many IT use studies. Most of the IT use literature has so far taken an interest in using enterprise IT for work purposes, while the study of IT consumerization takes an interest in the interaction of users with IT across multiple contexts and how they will impact interactions with IT in the work context (Gregory et al. 2018; Junglas et al. 2022). This thesis studied IT consumerization using the role perspective, which focuses on how individuals' beliefs affect interactions with IT in the workplace, allowing us to further understand spillovers across contexts. Our findings contributed to the IT consumerization stream by addressing questions of interest within this stream.

The results from Chapter 2 provide evidence that the clarity of the organization of the beliefs that users have accumulated through their consumption of IT in personal contexts and use to complete work tasks will affect how they interact with IT in the work context. Indeed, we have shown that ITSCC plays a role in explaining why users can effectively adapt themselves when completing their work tasks. Adaptation in the use of consumer IT for work stands as a key

outcome in this stream. Showing that the ITSCC construct plays a role in the adaptation process in this context will allow improving models to take an interest in this outcome.

Our findings from Chapter 3 allow us to make recommendations regarding the design of framed suggestion messages. These findings are of interest in a context where individuals use consumer IT to complete work tasks, and organizations often struggle to support users in their adaptation process effectively. We aimed to improve the effectiveness of the organization's support in the users' adaptation process by designing framed suggestion messages that will be effective for all users with different ITSCC levels. Designing messages that will be effective for users of all ITSCC levels will allow for improving organizations' capability to support the adaptation of users to complete work tasks.

IT identity and IT self-concept theory contributions

The findings of this thesis complement the findings of studies about the beliefs that users develop toward themselves as IT users. In this stream, the IT identity literature suggests that interacting with IT across multiple contexts leads to the inclusion of beliefs within the self-concept and that those beliefs could impact user behavior within the work context (Carter and Grover 2015; Polites et al. 2018). Research of the IT self-concept has provided complementary findings by highlighting the role of content of beliefs that individuals have toward themselves as IT users to explain users' behavior when interacting with IT to complete work tasks (Janneck et al. 2013; Zylka et al. 2015). ITSCC will contribute to this literature by adding a new construct that relates to another dimension of individuals' beliefs toward themselves as IT users.

Conceptualizing the extent to which the IT self-concept is well organized will allow further understanding of an essential aspect of individuals' beliefs toward themselves as IT users. ITSCC

considers that users with extensive experience in using their consumer IT can also develop conflicting and uncertain beliefs about themselves as IT users. This thesis shows that the clarity of the beliefs' organization can allow predicting certain aspects of interaction with IT to complete work tasks. It was especially interesting to notice that experience using an IT was not a significant factor in predicting responses to the suggestion messages in Chapter 3.

Hence, these findings show the need to consider the specific impact of the clarity of the IT self-concept to improve the predictive power of models in the stream of IS research interested in the beliefs that individuals generate toward themselves as IT users. The next section outlines future studies that can expand our understanding of the beliefs that users have towards themselves as IT users by building on the findings of this thesis.

Future studies

Subjective well-being

This thesis's findings bring forward opportunities to investigate the role of ITSCC in users' interactions with IT in future studies. The first one is regarding the subjective well-being of users. There is currently a growing interest in the IS field regarding the well-being of users (Wenninger et al. 2019). Indeed, users' subjective well-being is critical, considering that knowledge workers have been highly affected by the COVID-19 pandemic, which has increased their isolation and exposure to technostress through remote work (Şentürk et al. 2021). Furthermore, studies in the IT identity stream have shown that developing an IT identity toward an IT can be associated with certain outcomes, such as IT addiction, that can have negative effects on subjective well-being (Gong et al. 2020).

It would be interesting to investigate the role of ITSCC in models explaining users' subjective well-being when users develop an IT identity toward the use of an IT. Indeed, studies have shown that having clarity over the self improves individuals' subjective well-being (Ritchie et al. 2011). This is because having a higher level of clarity over the self enables individuals to react to their environment in a fashion that better fits their goals. Hence, it would be interesting to study the relationship between the use of consumer IT, ITSCC, and users' subjective well-being in the workplace.

IT literacy

Another application of ITSCC would be to predict better the acquisition of knowledge in the context of IT literacy development. Indeed, IT literacy has been identified as a critical component in successfully obtaining benefits from the use of IT within organizations (Zylka et al. 2015). Studies on the antecedent of IT literacy and the IT self-concept have shown that the IT self-concept plays the role of an antecedent in the acquisition of IT knowledge (Janneck et al. 2013). These models can be extended using ITSCC.

Studies regarding the SCC in the context of learning have shown that SCC plays a significant role in acquiring knowledge. This is because having greater clarity over the self allows individuals to better process information in their environment (Ritchie et al. 2011). This will enable them to better understand how the information within their environment better fit with their self, facilitating the assimilation of knowledge pertinent to their goals (Guadagno and Burger 2007). Other studies have shown that individuals with greater levels of clarity over themselves obtain greater results when being tested on knowledge evaluation (Thomas and Gadbois 2007). One explanation for this is that having a greater level of clarity over themself

allows individuals to be more implicated in subjects that they find pertinent for themselves, while users with lower levels of SCC are more likely to only be able to focus on superficial engagement with subjects.

Hence, it would be interesting to study the development of IT literacy and to evaluate the interaction between the IT self-concept and ITSCC as antecedents for this outcome. Such studies would allow for a better understanding of the role of individual characteristics in improving the acquisition of digital literacy. This is especially pertinent in the IT consumerization setting, where users must be independent in acquiring skills and knowledge regarding their consumer IT that they use for work. Furthermore, as noted in this thesis, users may have gathered multiple and potentially incoherent beliefs toward themselves as IT users through their use of IT across multiple contexts. As demonstrated in Chapter 2, the users' ITSCC could play a role in how they adapt themselves following their knowledge acquisition when using consumer IT in the workplace. Furthermore, organizations may aim to support users in their digital literacy acquisition process through automated messages. Our findings from Chapter 3 could inform how to better support users in their acquisition of IT literacy.

Conclusion

This thesis aimed to further understand users' adaptation process when utilizing consumer IT to complete work tasks. We met this aim by exploring the role of clarity in the organization of individuals' beliefs toward themselves as IT users. In Chapter 1, we brought forward the pertinence of adapting the SCC concept to the IT use context. We put that this concept could improve the predictive power of models explaining adaptation behaviors when users are experiencing consumer IT technostress and when interacting with interaction with an IT with persuasive communication features to complete work tasks. In Chapter 2, we conceptualized ITSCC and generated and validated a measurement scale for this construct. We also performed a longitudinal study to show the positive relationship between ITSCC and adaptation in situations where users are confronted with technostress from using consumer IT for work. In Chapter 3, we performed an experiment showing that the effectiveness of framed suggestion messages could vary depending on the level of the user's level of ITSCC and that gain-framed suggestion messages may be more effective than loss-framed suggestion messages to support users in their adaptation of consumer IT to complete work tasks.

At its core, this thesis reveals that the organization of the beliefs individuals have developed toward themselves as IT users through their interactions across multiple contexts will impact how they adapt themselves when using IT to complete work tasks. We put forward that considering this trait will allow managers to improve the adaptation of consumer IT users when performing work tasks. On a practical note, we provide prescriptive knowledge regarding the design of suggestion messages to support users in adapting to consumer IT to complete work tasks. Given that IT consumerization is a phenomenon present in most organizations and that

taking advantage of this trend requires adaptation of users, the findings of this lay ground for future potential research and applications.

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