Conceptualizing and Operationalizing TikTok Wisdom - First steps towards a domain-specific Wisdom Scale

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Paper from the EMAC Regional Conference, Athens, Greece, September 27-29, 2023

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Transformative Consumer Research has specified the ancient concept of Wisdom for application in the consumer domain. The concept has gained increased attention as Cyber Wisdom for responsible navigation of the internet. The authors specify the four dimensions of this concept (Wisdom Literacy, Reasoning, Self-Reflection, and Motivation) for TikTok Wisdom and propose and test a measurement approach. Based on 270 data sets from a preliminary validation study, Self-Reflection and Motivation could be fully validated. For TikTok Literacy, the authors suggest differentiating between usage and content literacy. Future research may extend the proposed TikTok Wisdom Reasoning scale by one or two items to fully meet measurement criteria. Once the measurement is fully established, it supports researchers, policy-makers, and educators ensuring wise TikTok behavior and thereby avoiding a complete ban by balancing merits and potential risks associated with TikTok.

1. Popularity of and Concerns about TikTok

The short-video platform TikTok is among the fastest-growing social media networks (SMNs) with a reported active monthly user base of more than 1 billion (TikTok, 2021); TikTok's self-service advertising tools suggest a reach of 1.051 billion users (Kepios, 2023). However, these numbers might be misleading as TikTok only publishes numbers on advertising audiences at the age range of 18 and above, but allows targeting age-groups 13+ with advertisement (Kemp, 2023). For the population aged 18+ the announced worldwide advertising reach of 18.7% of TikTok amounts to more than 30% of this population when excluding markets like China and India where TikTok is not available (Kepios, 2023).

Public controversy and discussions about regulating or banning TikTok from Western markets are grounded in distrust about data and cyber security as well as concerns about mental health and addictive tendencies associated with TikTok-usage especially in younger age groups (e.g., Petrillo, 2021). Legal regulation efforts might be able to solve the problem from a jurisdictional side, yet other SMNs may fill the gap quickly. An alternative way of reducing damage from SMNs is to strengthen and sensitize users to enable them to use SMNs wisely.

This paper draws on the construct of Consumer Wisdom (section 2.1), which has received special attention in the online world. Based on Polizzi and Harrison's (2022) conception of Cyber Wisdom (2.2) the authors suggest a first framework for operationalizing the construct TikTok (Consumer) Wisdom (2.3) and offer a measurement approach (3.0) as well as results (4.0) from a preliminary validation study among German TikTok users. We critically discuss merits and shortages of our scale (5.0) and aim at opening a new route for future research by contributing to the following research questions:

R1: How can the Cyber-Wisdom (CW) dimensions be transferred to TikTok Wisdom?

R2: How can the four CW dimensions be operationalized for measuring TikTok Wisdom?

2. Conception of TikTok Wisdom

2.1 Consumer wisdom

The concept of wisdom was advanced by ancient philosophers like Aristotle who first regarded human well-being (eudemonia) as a function of pragmatic wisdom (phronesis) (Fowers, 2003). Wisdom has been considered as one of the most valuable human traits for directing one's own well-being and the greater good (e.g., Luchs, Mick & Haws, 2021; Schneider et al., 2022). Though there is no universally agreed-upon definition due to age-, culture-, and situation-specific aspects, wisdom is commonly associated with qualities ranging from knowledge acquired from life experiences to intellect and rationality (Grossmann, 2017).

With the transformative consumer research movement, studies on "meaningful consumer choice" in terms of long-term versus short-term well-being have gained considerable attention and expanded the research on wisdom in the context of marketing and consumer behavior (Luchs & Mick, 2018; Luchs et al., 2021). Owing to the domain-specificity of wisdom (e.g., Fowers, 2003),

Mick and Schwartz (2012) referred to consumer wisdom as a process that integrates and balances consumption factors and concerns in a way that is flexible, perspicacious, and sensitive whereas Grossmann, Westrate, Ferrari, and Brienza (2020) emphasize metacognitive and moral aspirations. Sternberg's balance theory of wisdom stresses "…the application of successful intelligence and creativity as mediated by values towards the achievement of a common good through a balance among (a) intrapersonal, (b) interpersonal, and (c) extra personal interests, over (a) short and (b) long terms, to achieve a balance among adaptation of existing environments" (Sternberg, 2003, p.152).

2.2 Cyber wisdom

One major challenge consumers and researchers are currently facing is how to wisely balance the opportunities and risks of social media consumption. Despite SMNs prevalence and merits, usage has been associated with negative changes in users' moral conditions including addictive usage behavior, network rumor-mongering, cyberbullying, internet crimes, and digital plagiarism (Chang, Hung, Lu, & Chou, 2018). Therefore, we contend that consumer wisdom is a useful lens for observing social media as it entails applying metacognition to reasoning and problem-solving in a morally justified manner (Grossmann et al., 2020; Schneider et al., 2022).

Polizzi and Harrison (2022) propose a conceptualization for Cyber Wisdom, i.e. a set of virtues that "is crucial for navigating online risks and opportunities" and "necessary for flourishing online" (p. 15). Specifically, the authors differentiate the following four dimensions of Cyber Wisdom: Literacy, Reasoning, Self-Reflection, and Motivation. Table 1 specifies these dimensions and includes our proposed transfer of those to TikTok Wisdom.

	Cyber Wisdom	**TikTok Wisdom**
Literacy	Comprehension of and ability to apply different virtues like honesty and compassion to an online context	Knowledge and Understanding of rules, regulations, and potential risks of TikTok usage, incl. addiction risk and downside effects on one's own life and on the relationship with others, and virtues
Reasoning	Evaluation of (and ability to prioritize) different (esp. conflicting) virtues in an online setting	Awareness of conflicting values or violations in norms, standards, and virtues (Critical thinking about TikTok content)
Self-Reflection	Reflection on moral dimensions (biases and conflicting perspectives), esp. attention to emotions of others when navigating online	Reflection and mindfulness of one's own sharing and posting behavior on TikTok with respect to the feelings of other users
Motivation	Intention to align online behavior in accordance with the common good	Motivation to analyze, reflect, and control of one's own TikTok behavior to prevent potential addictive tendency

Table 1: Specification of Cyber Wisdom dimensions (Polizzi and Harrison, 2022) and proposed TikTok Wisdom understanding

2.3 Operationalization

Polizzi and Harrison (2022) have not proposed a scale for measuring Cyber Wisdom that could be transferred to TikTok Wisdom measurement. Therefore, we base our suggestion for

operationalizing TikTok Wisdom on the transfer of existing scales like the Cyber Virtue Scale (by Chang et al., 2018) and added new items based on two qualitative interviews with passionate though reflected TikTok users. The results were reflected and discussed with teenage users.

For the **literacy dimension** of TikTok Wisdom we focused on the aspects of rules and regulations (for oneself and others) as well as knowledge of addictive potential associated with TikTok usage. Knowledge, interest, and tendency to follow rules and regulations (TikTok community guidelines) are derived from the qualitative interviews. For the addictive potential, we adapted items from the Bergen Social Media Addiction Scale (Andreassen, Torsheim, Brunborg & Pallesen, 2012) as well as from the Social Media Disorder Scale (Van den Eijnden, Lemmens & Valkenburg, 2016). Both aspects integrate Sternberg's (2003) intra- as well as interpersonal characteristics.

For the **reasoning dimension,** we relied on the results of the qualitative interviews during which conflicting values and violations of norms, standards, and virtues were discussed in a TikTok context. Besides general items on content that is conflicting with user values, we specifically included one item that referred to TikTok's For-You-Page. This page presents individualized short-video suggestions over which users have no control. It has moved beyond the traditional self-directed feed to one that is primarily algorithmic and therefore "full of things [users] seem to have demonstrated [they] want to watch, no matter what [they] actually say [they] want to watch" (Herrman, 2019).

We transferred items from the "Interpersonal Interaction" dimension of Chang et al.'s (2018) Cyber Virtue Scale to the **self-reflection dimension** of TikTok Wisdom as those aligned with the notion of mindfulness in TikTok posting behavior with respect to the emotions of others (Table.1) referring to the concept of balance between intra- and interpersonal interests of Sternberg's (2003) balance theory. We added one additional item from the qualitative interviews.

For the **motivation dimension,** we drew on the self-discipline dimension of Chang et al. (2018) and developed statements based on our qualitative interviews that focus on reflecting and controlling one's usage behavior, especially setting daily usage limits and sticking to them. Table 2 (p. 5) provides an overview of the items used per dimension for the preliminary validation study.

Dimension	No.	Item	Source
TikTok Wisdom Literacy	Lit_1	I assume that legal regulations (e.g., age limit) are followed by users on TikTok.	Qualitative interviews
	Lit_2	Legal usage regulations are of relatively little interest to me. (R)	
	Lit_3	I know the "community guidelines" of TikTok.	
	Lit_4	I don't see any problem in extensive TikTok usage (R)	
	Lit_5	I occasionally feel the urge to use TikTok more and more.	Adapted from Andreassen et al. 2012
	Lit_6	My TikTok use has caused me to neglect other things in my life (friends/family/hobbies, etc.) at times.	
	Lit_7	It annoys me when I am unable to use TikTok (lack of internet access, banned, etc.).	
	Lit_8	I've had a hard time not responding to TikTok notifications when I was busy doing something else.	Adapted from Van den Eijnden et al. 2016
	Lit_9	I am occasionally not completely honest or avoid answering when asked about the time I spend on TikTok (e.g., by my parents).	
	Lit_10	My TikTok use has had a negative impact on my performance at school, work, or college.	
TikTok Wisdom Reasoning	Reas_1	I often watch videos on TikTok that I don't like because they don't match my values.	Qualitative interviews
	Reas_2	Videos appear on my "For You Page" that I don't actually want to watch (e.g., less respectful or even discriminatory/violent content).	
	Reas_3	I have (frequently) noticed videos where I have doubts whether the community guidelines have been followed or respected.	
	Reas_4	I don't worry about ethical aspects when watching TikTok content (R).	
TikTok Wisdom Self-Reflection	Refl_1	When I am on TikTok, I pay attention to my behavior.	Adapted from Chang et al. 2018
	Refl_2	Before I post or comment on something on TikTok, I consider whether it might offend/hurt others.	
	Refl_3	I am mindful of others' feelings when posting content (videos/comments).	
	Refl_4	I respect different opinions of TikTok users.	
	Refl_5	I follow TikTok's "community guidelines".	Qual. interviews
TikTok Wisdom Motivation	Mot_1	I know exactly where to set my usage limit for TikTok.	Qual. interviews
	Mot_2	I have already set a limit for my TikTok usage time.	Adapted from Chang et al. 2018
	Mot_3	I consciously set a specific (daily) TikTok usage limit and use it for orientation to spontaneously decide whether I want to stick to it or exceed it.	Qualitative interviews
	Mot_4	I consistently stick to a consciously set TikTok usage limit.	

Table 2: TikTok Wisdom Dimensions with related items and sources

3. Method

3.1 Scales and Data Collection

The items based on existing scales (Chang et al., 2018, Van den Eijnden et al., 2016; Andreassen et al., 2012) that are adapted to the TikTok context as well as the ones based on qualitative interviews, were measured on 5-point Likert-Scales. The survey platform Qualtrics served as online tool for gathering data. Participants were recruited through the university, social media platforms, and the panel provider Prolific. Snowball sampling allowed for inclusion of participants under 18 years. In accordance with German data protection principles, participants under 16 years had to explicitly state parental consent prior to participation. Data collection took place in April 2023.

3.2 Data Cleansing and Sample

A preliminary sample of 325 participants was extracted from Qualtrics by Mid-April 2023. Participants who were underage without parental consent, had not agreed to set functional cookies, or stated not being active TikTok users were dropped. Data cleansing prior to analysis in SPSS 28 and AMOS 28 followed standard rules (elimination of datasets with a high number of missing values and/or unengaged or highly inconsistent answering patterns). A final sample of 270 participants remained (56.3% females; average age 25.1 years).

4. Results

4.1 Validation

Exploratory factor analysis was used to examine the factor structure of the TikTok Wisdom measurement, while confirmatory factor analysis was used to test the fit of the factor structure and the Fornell and Larcker (1981) criterion served to check discriminant validity among the TikTok Wisdom dimensions. The internal consistency of the new scales was assessed using Cronbach's alpha.

The items used for measuring TikTok Literacy (Table. 3) loaded on three factors, indicating that items that originated from existing scales that captured awareness of addiction potential (Lit_5 to Lit_10) captured another dimension than the items that focused on following community guidelines. The latter items did not reach required thresholds in a separate factor and reliability analysis. The reversed items (Lit_2R) loaded on a third factor. We therefore dropped the first four of the TikTok Literacy items.

Additionally, the reversed item in the reasoning dimension (Reas_4) as well as one item in the Self-Reflection dimension (Refl_1) was dropped. After scale purification exploratory factor analysis yielded a four-factor solution with the items loading on the corresponding factors (factor loadings > .6). Scales demonstrated sufficient internal reliability with Cronbach's Alphas ranging from .703 to .841. The Alpha of Reasoning seems to just meet the .7 threshold, however, Robinson, Shaver, and Wrightsman (1991) evaluate alphas above .6 as sufficient during exploratory research phases.

The results of (AMOS-based) confirmatory factor analysis showed good model fit (C_{min}/DF=1.415, CFI=.968, RMSEA=.039, SRMR=.048). Composite Reliabilities consistently exceed the .6 threshold. The reported measures demonstrate a high internal reliability of the items used. However, the average variances extracted (AVEs) for Literacy and Reasoning are below the .5 standard. AVE is sometimes considered to be a rather conservative validity measure with a slight tolerance when not meeting the threshold (Lam, 2012). Our measurement approach meets discriminant validity standards. Descriptive statistics, reliability, and validity measures for the sample are displayed in Table 3.

TikTok Wisdom Dimensions

	M	SD	α	CR	AVE	MSV	Refl	Lit	Mot	Reas
Refl	4.1	.78	.786	0.789	0.504	0.018	**0.710**			
Lit	2.1	.92	.841	0.843	0.473	0.075	-0.002	**0.688**		
Mot	2.3	1.14	.784	0.799	0.511	0.075	0.111	0.273	**0.715**	
Reas	3.2	.98	.703	0.710	0.455	0.026	0.134	0.160	0.086	**0.675**

Note: α = Cronbach's Alpha; AVE = Average Variance Extracted; CR = Composite Reliability; M = Mean; MSV = Maximum Shared Variance; SD = Standard Deviation; diagonal elements represent square roots of AVE; Refl = Self-Reflection; Lit = Literacy; Mot = Motivation; Reas = Reasoning

Table 3: Descriptive and validity statistics and correlations

4.2 Potential Bias

Harman's (1976) single-factor test led to the explanatory power of 22% of the variance. Common factor analysis (Podsakoff, MacKenzie, Lee & Podsakoff, 2003) based on a marker variable results in a common variance of 3,6%, suggesting that common method bias did not pose an issue in this study. To control for potential social desirability bias, we integrated a short, Likert-type version of the Crowne and Marlowe (1960) Social Desirability Scale (SDS). Correlation analysis indicated no risk of being contaminated by social desirability for the TikTok Wisdom dimensions Literacy (p=.156), Reasoning (p=.818), and Motivation (p=.268), however, correlation analysis with self-reflection was significant (p= .001). We therefore suggest using the Social Desirability Factor as Control variable in a structural equation modeling that includes this TikTok Wisdom dimension.

5. Discussion

Consumer Wisdom has become an increasingly important concept that needs domain-specific definition, conceptualization, and measurement. This paper offers a first approach to transfer the four dimensions of Cyber Wisdom to TikTok Wisdom, i.e. a construct that entails the mindful usage of the SMN TikTok. For operationalizing the four dimensions (Literacy, Reasoning, Self-Reflection, and Motivation), we adapted existing scales and amended them with insights from qualitative interviews acknowledging vital aspects of Sternberg's (2003) balance theory.

Based on a preliminary study with 270 TikTok users in Germany, we were able to validate TikTok Wisdom Motivation and TikTok Wisdom Self-Reflection. Though Reasoning and Literacy demonstrate sufficient discriminant validity, the average variances extracted are below standard

thresholds. These shortcomings may be considered acceptable regarding the exploratory phase of this research.

The dimension of TikTok Wisdom Literacy showed that aspects like following "community guidelines" did not load on the same factor as the understanding of the addictive tendencies potentially connected with TikTok usage. Based on these results, we conclude that for the Literacy dimension we specifically suggest to differentiate between Content Literacy and Usage Literacy. Content Literacy may entail the notion of knowledge and understanding of regulations and rules for uploading TikTok content whereas Usage Literacy may comprise the understanding of addictive potential associated with intense TikTok usage including its effects on the relationship of others, virtues, and the environment.

Once the TikTok Wisdom scale is fully validated for the four dimensions, drivers and outcome of TikTok Wisdom will be subject to marketing research analysis. This is especially important as TikTok is increasingly used for advertising purposes, also targeted at young people (13+) who may need more support than their older counterparts to wisely navigate this and potentially further SMNs. Measuring the degree of TikTok Wisdom within relevant communities may indicate need for action and guide policy-makers and educators alike in developing strategies and measures to improve responsible and wise TikTok behavior. This is important to achieve a balance between the merits and the potential risks associated with SMN usage. If societies fail to establish necessary domain-specific wisdom on a larger scale especially among young users, the jurisdictional side with regulations and bans seems the only option left to safeguard users from harming themselves, others, and society at large in the long run.

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