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# Measuring Socio-Cognitive Mindfulness as a State of Consciousness in Recreation, Parks, and Tourism

## Abstract

Socio-cognitive mindfulness has been applied extensively in recreation, parks, and tourism research. Moscardo first applied Langer's conception of mindfulness in the field and devised a mindfulness measure that has been subsequently used over the past three decades. This research note describes how this mindfulness measure has been employed in applied research in recreation, parks, and tourism. Other measures of mindfulness as a state of consciousness used in this field and information about scales to measure dispositional mindfulness are likewise addressed. Suggested future use and exploration of Moscardo's mindfulness measure are also described.

*Keywords:* socio-cognitive mindfulness, state of consciousness, recreation, parks, tourism

## 1. Introduction

Mindfulness has been studied in many disciplines and contexts over the years. Langer (1989, 1997) used mindfulness theory in psychology and education, enhancing understanding of socio-cognitive mindfulness. Kabat-Zinn (2003) pioneered the application of mindfulness in medical and clinical settings; his research focused on meditative mindfulness. Over time, these differences have led to the formulation of different ways to understand and measure mindfulness. Thus, mindfulness measures have taken various forms in recreation, parks, and tourism research studies. This research note examined how a mindfulness measure first proposed by Moscardo (1992), the most widely used socio-cognitive mindfulness measure in this field, has been used and reported in prior research. By reviewing this measure and examining other mindfulness measures used in previous studies, efficient measurement of mindfulness for future use in this field can be better understood to enhance visitor experiences. Suggestions for future research are also described based on the current literature.

## 2. Moscardo's mindfulness measure

Measuring mindfulness as a state of consciousness emerged as an issue of study in the 1990s. The mindfulness measure put forth by Moscardo (1992) sought to measure mindfulness in given situations. In the field of parks, recreation, and tourism, this measure of mindfulness has become particularly notable, given that it was a measure of mindfulness specific to this field. Subsequently, research has been conducted using the same type of measurement of mindfulness at various sites of interest (Barber & Deale, 2014; Frauman & Norman, 2003, 2004; Ganesan et al., 2014; Taylor & Norman, 2019; Van Winkle & Backman, 2008; Ying et al., 2020).

Moscardo (1992) created a measure of mindfulness on-site to explore mindfulness in museum settings. She used a 7-item measure of mindfulness using a 4-point response scale (ranging from "not at all true" to "very true"). The following mindfulness items were used in her original study: "My curiosity is aroused," "I feel like searching for answers," "I want to explore possibilities," "My interest has been captured," "I feel involved

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in what I am doing,” “I want to enquire further,” and “I feel in control of what I am doing.” The alpha value calculated from the inter-item correlations was .88, and high positive correlations were noted among the statements.

This mindfulness measure has been modified and used by other researchers. Frauman and Norman (2003, 2004) noted that the items devised by Moscardo were established to capture specific elements of mindfulness and that her results had revealed positive inter-item correlations, resulting in a unidimensional scale. They modified this measure for their studies at state parks. The researchers initially used the 7-item measure of mindfulness with a 7-point Likert-type response scale. Their purified scale was comprised of six items. The Cronbach’s alpha was .91. The statements used by Frauman and Norman (2003, 2004) all began with “When at state parks I like to” the rest of the retained item statements were “have my interest captured,” “search for answers to questions I may have,” “have my curiosity aroused,” “inquire further about things in the park,” “explore and discover new things,” and “feel involved in what is going on around me.” The item that was dropped was “feel in control of what is going on around me.”

Van Winkle and Backman (2008) also used a modified version of this scale to study visitor mindfulness at a festival. The researchers initially used a 7-item Likert-type measure with the 7-point response approach. The purified scale was comprised of six items due to the removal of the item “I explored and discovered new things.” Reliability testing revealed a Cronbach’s alpha value of .70 after removing one item. They released a different item than Frauman and Norman (2003, 2004) had, so the researchers suggested that future research address dimensions of mindfulness given this difference. The researchers also noted that a scale developed by Langer that measures propensity toward mindfulness should be examined in the future to help further refine and develop Moscardo’s measure.

Barber and Deale (2014) studied mindfulness in relation to sustainable behaviour in a hotel setting. The researchers used Moscardo’s (1992) 7-item mindfulness measure. In addition, a 7-point Likert-type response scale was employed in this study about hotel guest behaviour. The researchers retained all seven items, which reported an alpha value of .93. Factor loadings for each item ranged from .88 to .94.

Choe et al. (2014) explored mindfulness on-site at an exhibition. They derived mindfulness measure information from three previously described studies (Frauman & Norman, 2004; Moscardo, 1992; Van Winkle & Backman, 2008). In this study, mindfulness was examined among attendees of the 2011 Seoul Motor Show and a 7-item Likert scale with a 5-point response approach was used. Like Frauman and Norman (2004), the purified scale comprised six items to measure mindfulness on-site (the same items were used in both studies). A Cronbach’s alpha of .88 was obtained in this study.

Ganesan et al. (2014) measured mindfulness in their study at a heritage tourism site. The mindfulness measure was examined using a 7-item Likert scale with a 5-point response scale. The wording used was the same as that used by Frauman and Norman (2004), with slight modifications to align with the purposes of the study. The researchers indicated the scale was internally consistent with a Cronbach’s alpha of .799. Consequently, all seven mindfulness items were retained.

Taylor and Norman (2019) studied mindfulness during the anticipation phase of travel. The six-item scale used by Frauman and Norman (2004) was employed in the study. The researchers kept all six items following a factor analysis. The standardized loading for each mindfulness item ranged from .662 to .792, and the scale was validated with a construct reliability of .877. Ying et al. (2020) examined mindfulness in a museum setting. The researchers also used the six-item mindfulness measure Frauman and Norman (2004) used. A 7-point Likert scale was used for this measure. All six items were retained. The reported factor loading for each mindfulness item ranged from .769 to .859. Cronbach’s alpha was .935 for this six-item mindfulness measure.

## 3. Other mindfulness measures

### 3.1. State of consciousness mindfulness

Measuring mindfulness as a state of consciousness has been explored by other researchers. Two different notable measurement scales were developed. Both measures are self-report measures (Hart et al., 2013). The short version of the Mindful Attention Awareness Scale (MAAS) by Brown and Ryan (2003) is a unidimensional scale. There are five items to measure the respondent's level of mindfulness, and a 6-point Likert-type response scale was used. The authors first reported high internal consistency with a Cronbach's alpha of .92 when the mindfulness measure was first used (Brown & Ryan, 2003).

Brown and Ryan's (2003) research focused on socio-cognitive mindfulness. The Toronto Mindfulness Scale (TMS) that was developed by Lau et al. (2006) was designed to measure mindfulness from the perspective of mindful meditation training. This conceptualization of mindfulness would align with the type of mindfulness articulated by Kabat-Zinn (2003). Thus, while also examining present-moment mindfulness, its focus is beyond the scope of this paper. The TMS is a 13-item measure with scales measuring curiosity and decentering.

### 3.2. Dispositional mindfulness

There are also many scales designed to measure dispositional mindfulness (i.e., trait mindfulness), which has been defined as "the tendency to be mindful in everyday life" (Birrer et al., 2012, p. 235). The extended version of the Mindful Attention Awareness Scale (MAAS) by Brown and Ryan (2003) is a 15-item measure of dispositional mindfulness. According to Hart et al. (2013), there are eight other measures of dispositional mindfulness, one of which is the Langer Mindfulness Scale (LMS). In its original form, the LMS was a 21-item measure but has been effectively reduced to a 14-item measure (Pirson et al., 2018). A 7-point Likert response scale with one meaning "strongly disagree" and seven meaning "strongly agree" was first used to obtain responses from participants. The LMS comprises subscales that measure engagement, flexibility, novelty producing, and novelty seeking. In six samples to assess the 14-item measure, Cronbach's alpha reliability estimates ranged from .83 to .90 (Pirson et al., 2018).

## 4. Summary and future direction

Moscardo's (1992) mindfulness measure has been frequently used in parks, recreation, and tourism. However, other mindfulness measures have been employed in this field. Kang and Gretzel's (2012) study of tourist experiences used dispositional mindfulness measures derived from psychology to measure mindfulness. The exact measurements were used in a survey by Loureiro et al. (2020). In Wolsko and Lindberg's (2013) survey of recreation participants, Brown and Ryan's (2003) mindfulness measure was used. Ndubisi (2014) used the LMS in a study of destination marketing, while Loureiro et al. (2019) used it in a study of rural tourism. Cervinka et al. (2020) used the Freiburg Mindfulness Inventory (a dispositional mindfulness scale) in their research on forest recreation. Eck et al. (2022) used items from existing scales to measure mindfulness dimensions.

Van Winkle and Backman (2008) described a scale developed by Langer in their study about mindfulness in a festival setting. They referred to the pre-cursor of the LMS that was fully developed later (Pirson et al., 2018). Van Winkle and Backman's (2008) assertion that Moscardo's mindfulness measure can be further refined and developed was an appropriate observation. However, Moscardo's scale seeks to measure mindfulness as a state of consciousness, whereas the LMS seeks to measure mindfulness as a disposition. Thus, it would be reasonable to conclude that further cultivation of Moscardo's (1992) measure would be helpful in further research focused on mindfulness as a state of consciousness. All seven items in the measure were used in three studies (Barber & Deale, 2014; Ganesan et al., 2014; Moscardo, 1992). The

reported alpha values from these studies were .799 (Ganesan et al., 2014), .88 (Moscardo, 1992), and .93 (Barber & Deale, 2014). Frauman and Norman (2003, 2004) used six items to measure mindfulness and the same six items were used by Choe et al. (2014), Taylor and Norman (2019), and Ying et al. (2020). The reported alpha values from these studies were .88 (Choe et al., 2014), .91 (Frauman & Norman, 2003, 2004), and .935 (Ying et al., 2020). Taylor and Norman (2019) reported a composite reliability of .877, which exceeded the recommended value. Van Winkle and Backman (2008) used six different items compared with the other researchers and reported an alpha of .70, considered the minimum for a good alpha value. Given these findings, future research using this mindfulness measure should initially employ the seven-item version. Data analysis can then be completed to determine if the six-item measure is more appropriate, as has been done by other researchers (Choe et al., 2014; Frauman & Norman, 2003, 2004). Future researchers should adopt this approach to either confirm the whole measure or provide results to specify why the six-item measure is more appropriate.

As described by Langer (1989, 1997), mindfulness remains highly relevant to tourism research (Dutt & Ninov, 2016). Moscardo's (1992) mindfulness measure was developed within parks, recreation, and tourism to understand mindfulness in a given situation better.

While her measure has been used in various studies to explore mindfulness as a state of consciousness, different researchers have used all seven of her originally proposed items or six of them when measuring mindfulness. Future research should address the issue of refining this mindfulness measure as it would help other researchers and improve the mindfulness measurement. Examining dimensions of mindfulness within this measure could enhance this measure (Van Winkle & Backman, 2008). Other mindfulness measures may be helpful to researchers in parks, recreation, and tourism. If interested in mindfulness as a state of consciousness, the short version of the MAAS by Brown and Ryan (2003) can be used. If interested in mindfulness as a disposition, Hart et al. (2013) identified several dispositional mindfulness scales, such as the extended version of the MAAS and the LMS.

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