

Mapping the Hierarchical Structure of Coping: Unifying Empirical and Theoretical Perspectives

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Consumer researchers have become increasingly interested in the study of coping. This research contributes to this emerging paradigm by investigating structural theories of coping using a hierarchical modeling approach to better understand the basic dimensional properties of this multifaceted construct. This research makes gains along several fronts. First, the authors empirically examine a new lower order theory of coping based on a comprehensive synthesis of the literature, reconciling nomenclatural and conceptual redundancies found in the structure of coping literature. Analyses across 2 studies using different methods offer support for a 2-dimensional higher order model of coping. Finally, a third study using an experimental approach validates these findings by showing unique effects relating an approach–avoidance based higher order model to theoretically predicted emotional antecedents. By examining the mapping of lower order coping strategies onto several higher order coping theories, this research addresses the extant disjuncture between coping theory and measurement found in the literature and offers reconciliation between these 2 perspectives. The findings suggest the need for future coping research to focus on other 2-dimensional theories beyond problem-focused versus emotion-focused coping. The findings build on the synergies among the many coping perspectives, and the implications of a better understanding of coping's hierarchical structure for consumer researchers is discussed.

The study of coping has progressed from its origins within psychoanalysis to its present integral position across multiple disciplines, encompassing a variety of diverse theoretical and applied approaches. A recent Social Citations Index under the heading of “coping” yields in excess of 25,000 articles published since 1972. This groundswell of research has produced many advances in coping theory (Folkman & Moskowitz, 2004; Lazarus, 2000) and measurement (Amirkhan, 1990; Carver, Scheier, & Weintraub, 1989; Endler & Parker, 1990; Stanton, Kirk, Cameron, & Danoff-Burg, 2000), and has revealed the key role of coping in understanding adaptive processes (Aldwin & Revenson, 1987; Brissette, Scheier, & Carver, 2002) thereby establishing the relevance of coping research to many different streams of research. Consumer researchers have also begun to develop coping theory in recent years, bringing to bear

coping processes within the context of motivation (Maheswaran & Agrawal, 2004), decision making (Cavanaugh, Bettman, Luce, & Payne, 2007; Han, Lerner, & Keltner, 2007; Luce, 1998), emotions (Shiv, 2007; Yi & Baumgartner, 2004), consumer health (Lin, Lin, & Raghurir, 2003), and personality (Duhachek & Iacobucci, 2005).

How consumers cope in the marketplace is of vital interest to consumer researchers. Consumers regularly encounter issues that require the use of coping mechanisms to adapt. Without a clearly defined theoretical model for consumer coping, consumer research runs the risk of failing to define a structure to empirically examine the theory and ensure that research accurately represents the multidimensional nature of coping.

Despite the scholarly attention responsible for the production of dozens of distinct theories and measurement models of coping, coping research has been plagued by disagreement related to construct specification (Pearlin & Schooler, 1978), measurement (Todd, Tennen, Canrey, & Armeli, 2004), and in assessing its relation to social and

psychological consequences. These fundamental gaps in understanding have prevented the development of universally agreed upon coping models, thereby hindering progress and precluding conceptual advancement.

Of foremost concern to coping scholars is the disunity over basic ontological issues, namely regarding the dimensional structure of the coping construct itself (E. A. Skinner, Edge, Altman, & Sherwood, 2003). Wide disagreement related to this point exists and a search of this sizeable literature will produce several rival theories of conflicting dimensional structures as well as divergent views of the scales needed to appropriately measure the construct. Recent critical reviews have drawn attention to the scope of this inconsistency and a close examination has yielded a clearer set of standards for assessing contemporary theories of coping's structure (Parker & Endler, 1990; Schwarzer & Schwarzer 1996; E. A. Skinner et al., 2003). Due to the widely observed shortcomings in theory and measurement (Todd et al., 2004), and the emergence of recognized standards to begin to address these fundamental issues (Iacobucci, Saldanha, & Deng, 2007), coping researchers have great interest in addressing the question of the dimensional structure of coping. Therefore, this research builds on present theory related to this structure and contributes by conjoining perspectives from both lower order and higher order levels of analysis within a unified hierarchical framework.

COPING IN CONSUMER BEHAVIOR: WHY MEASUREMENT MATTERS

The consumer behavior coping literature has dealt primarily with a single viewpoint regarding the nature and form of coping. By far the most influential coping structural model in consumer research is based on problem-focused versus emotion-focused differences in coping. This dichotomy has been frequently employed in consumer research and scant attention has been paid to other notable structural theories found in the literature, such as approach versus avoidance differences. Research is needed to determine which theory most accurately accounts for coping's dimensional structure. If other models were shown to outperform the popular problem-focused or emotion-focused views, this result would suggest that theory developed using this distinction may need respecification, or additional research may be needed to determine how such distinctions operate in the context of other coping phenomena. This research seeks to address questions of coping's dimensional structure so as to facilitate further theoretical development within this area of consumer research.

In fact, this research is motivated by recent studies suggesting that coping processes are not dictated by the degree of emotional regulation as posited by the problem-focus or emotion-focus views. Rather, recent research has identified

robust, personality-based influences on coping stemming from an approach-avoidance motivational perspective (Carver, Sutton, & Scheier, 2000). This body of personality research has established the existence of two distinct emotional-regulatory systems: the behavioral activation system (BAS) and the behavioral inhibition system (BIS; Carver & White, 1989). Research into these systems has shown that each of these systems describes basic systemic responses to negative emotion, a proximal coping antecedent (Carver et al., 2000). In light of these findings, there would seem to be a critical nexus between these behavioral systems and coping processes. If such systems were operative in driving coping, it could explain how research (mis-)specifying coping in terms of problem and emotion-focus has undergone difficulty identifying systematic relations between negative emotions and specific coping processes (Folkman & Moskowitz, 2004). More is said of the approach-avoidance motivational system subsequently.

Aside from the somewhat narrow scope of coping dimensions considered in consumer research to date, there is also strong rationale for examining the dimensional structure of coping from both methodological and theoretical perspectives more generally. Consumer researchers are confronting key issues of construct specification across a variety of substantive areas of inquiry (cf. DiMafta & Yalch, 2007; Shavitt, Zhang, Torelli, & Lalwani, 2006). Conventional best practices for theory development necessitate the establishment of clearly defined constructs with reliable and valid empirical measures as essential preconditions to theory testing (Churchill, 1979). Given that no such consensus exists with respect to the measurement of coping, research is needed to address questions of dimensionality in determining coping's structure. This progress is necessary to ensure that theory developed using existing coping dimensions and scales is based on a sound methodological foundation.

A recent comprehensive review (E. A. Skinner et al., 2003) drew attention to the disjuncture between extant coping inventories that suggest dimensional structures varying from 2 to 28 lower order dimensions (e.g., positive reappraisal, information seeking) and higher order theoretical coping systems (e.g., approach-avoidance) positing hierarchical coping structures. E. A. Skinner et al. summarized this vast literature, concluding that few studies measured coping hierarchically, despite agreement among many coping scholars that conceptualizing coping at multiple levels of analysis is necessary to properly differentiate between episodic coping instances and broader adaptive frameworks. E. A. Skinner et al. concluded by promulgating recommended procedures for the empirical study of the structure of coping, described shortly. These techniques have also been recommended by other leading coping scholars (e.g., Folkman & Moskowitz, 2004). Thus, we took care to adhere to the critical elements of these recommended procedures in

the present research with the goal of addressing the fundamental hierarchical structure of coping question, in the same vein as other recent theoretical hierarchical examinations (Gross & John, 1998; Trierweiler, Eid, & Lischetzke, 2002).

There are three principal contributions of this research to the existing body of coping research: (a) It investigates coping dimensionality within two broad investigative frameworks—situation-specific and dispositionally based coping, (b) it addresses methodological limitations by using confirmatory and higher order factor analyses to test coping structures, and (c) it examines multiple competing models using a hierarchical modeling approach to ascertain coping's dimensional structure at multiple levels of analysis. The principal objective of this research is to empirically investigate alternative conceptual systems representing opposing stances related to coping's dimensionality. The latest thinking regarding lower order coping structures are presented in the service of a hierarchical structural inquiry, and the aim is not to replicate or invalidate a particular measurement model reported in the literature but to determine coping's hierarchical structural properties.

The remainder of this article is organized as follows: First, we discuss the significance to consumer researchers of a proper understanding of coping's structure in both theoretical and empirical terms. Second, the conceptual model based on the E. A. Skinner et al. (2003) review is delineated, and a lower order inventory based on this view of coping is developed thereby providing a means of empirically testing this new perspective. Third, we review nine higher order theories of coping found in the literature. Next, the results of a preliminary rational-sorting study using independent raters to assess the correspondence between lower order constructs and the higher order theories is reported, in an attempt to reliably map key linkages across these two domains. Study 1 then empirically examines the convergence of the lower order and higher order models, assessing both convergent and discriminant validity. These results are discussed in the context of a theoretical discussion of the significance of the nature of coping's hierarchical structure. Study 2 validated the hierarchical structures using an individual differences methodology. Study 3 verifies these findings experimentally by showing unique effects of proximal coping antecedents on the resulting hierarchical structure, thereby eliminating the viability of rival structures. The implications of these findings are discussed.

ALTERNATIVE COPING STRUCTURES IN CONSUMER RESEARCH: THE IMPORTANCE TO THEORY

Coping scholars have noted a key limitation in making conceptual distinctions of coping processes along the dimension of emotional regulation. Differentiating coping processes that are action oriented (problem focused) from

those that are directed at emotional regulation (emotion focused) appears theoretically untenable (E. A. Skinner et al., 2003). An elemental tenet of coping theory holds that coping processes are activated in response to negative emotion. This fundamental assumption seems to indicate that all coping processes are directed at emotional regulation. Thus, this assumption seems to cast doubt over the problem-focused/emotion-focused distinction, which holds that only emotion-focused coping behaviors are directed at emotional regulation. In fact, coping research has long been plagued by an inability to detect systematic relations between emotions and coping (Folkman & Moskowitz, 2004). One explanation is that extant research has misspecified the critical coping construct, mitigating the ability of this research to detect such relations. A more promising theoretical perspective, therefore, would seem to be one that acknowledges the role of emotional regulation in all coping behaviors.

This glossing over of emotional distinctions also appears inconsistent with recent theoretical developments in consumer research. Several streams of research seem to indicate the inextricability of emotion within consumer behavior. These various literatures have shown emotion effects on decision making, judgment, satisfaction, and attitude formation. Thus, it would seem that a necessary (but insufficient) condition for any structural theory of coping would be a central role for emotion across all coping dimensions. It is then interesting to note that the primary distinction in the prevailing theory of coping hinges on differentiating coping processes aimed at emotional regulation from those aimed at invoking action directly.

A seemingly more accurate theoretical position would emphasize emotion as a proximal antecedent of coping. In this view, even action-oriented coping dimensions such as problem solving would be seen as emerging directly from a systemic response directed at emotion regulation. Recent research suggests that such an approach can empirically observe theoretically predicted relations between specific emotional dimensions and coping behaviors (Duhachek, 2005; Yi & Baumgartner, 2004).

THE STRUCTURE OF COPING LANDSCAPE: A REVIEW OF THE LITERATURE

E. A. Skinner et al. (2003) synthesized 89 coping inventories, noting several important distinctions among these scales, such as those that measured general coping strategies versus those that measured domain-specific coping strategies, those developed using adult populations versus those developed for adolescents and children, and those that considered coping hierarchies versus those that were single-order conceptualizations. Their critical analysis concluded that more research is needed to directly assess the nature of coping's hierarchical structure. E. A. Skinner et al. concluded

that coping dimensionality research should proceed according to the following prescriptions: (a) both rational sorting and empirical modes of inquiry should be utilized, (b) structures are examined in both dispositional and situational stress settings, (c) confirmatory measurement techniques are used to establish discriminant validity across dimensions, and (d) models are tested using a hierarchical framework.

E. A. Skinner et al. (2003) conceptualized a 12-factor lower order structure, subsumed within three higher order factors comprising a unique hierarchical system. They generated these dimensions based on (a) their relative prevalence across a preponderance of coping inventories and, (b) their proposed linkages to an overarching theoretical system of action types. Because of its thorough synthesis of 30 years of coping scholarship, the E. A. Skinner et al. research represents the state-of-the-art with regards to conceptual thinking related to the dimensional structure of coping. Therefore, although no items were generated based on this hypothetical structure, the dimensions and construct definitions of E. A. Skinner et al.'s proposed structure (displayed in Table 1) allowed for a set of potential items to be written as an exploratory assessment. Their 12-dimensional structure includes several dimensions commonly found in the literature, including problem solving, information seeking, helplessness, avoidance, self-reliance, support seeking,

delegation, isolation, accommodation, negotiation, submission, and opposition strategies. Unique to their view of coping are the dimensions of negotiation (bargaining as in interpersonal contexts), opposition, and delegation. These new dimensions are rarer in occurrence, but E. A. Skinner et al. argued for their inclusion on theoretical grounds. Also of note, the E. A. Skinner et al. model posits that several factors previously identified by coping scholars as unique are conceptually analogous to other cognate factors. For instance, E. A. Skinner et al. do not differentiate between instrumental and emotional support-seeking behaviors, nor do they distinguish between avoidance and denial, hypothesizing that these similar ways of coping are functionally equivalent. They also hypothesize a single emotional regulation dimension, subsuming emotional suppression and emotional venting coping attempts. Also, positive reinterpretation and acceptance are conceived as representing a singular coping factor. Their research also suggests several item-level coping measures to be tested, a task undertaken in this research.

The work of E. A. Skinner et al. (2003) is an excellent synthesis of a diverse literature. The conceptual system they derive from their analysis strips away much of the conceptual redundancy and nomenclatural inconsistency found in other systems. Perhaps, the greatest contribution of their work relates to the development of a hierarchical multidimensional model of coping attempting to bridge lower order measurement with higher order theory. We now review several leading higher order theories found in the literature to be tested in our subsequent empirical studies.

TABLE 1

Lower Order Construct Definitions From the Skinner, Edge, Altman, and Sherwood (2003) Structural Theory

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|--|
| Problem solving: Efforts directed toward a source of stress. Taking action, problem solving and putting forth effort toward the source of a stressor are all prototypical behaviors associated with this coping strategy |
| Information seeking: Efforts to learn more about a stressful condition or situation, either by thinking more about known facts or investigating new facts of a situation. It consists of all efforts to observe and monitor details related to a stressful condition |
| Helplessness: This way of coping consists of a set of actions (or more appropriately inactions) organized around giving up or the relinquishment of control |
| Avoidance-escape: Efforts to disengage mentally by actively forgetting the stressful transaction |
| Self-reliance: Efforts to express and regulate emotions, focusing on constructive expression of emotions |
| Support seeking: Efforts to receive coping support from friend, spouse, professional, God, and so forth |
| Delegation: Series of behaviors usually thought to be maladaptive including whining, complaining, and engaging in self-pity |
| Isolation: Actions aimed at concealing stressful events or separating oneself from others |
| Accommodation: Efforts to adjust personal preferences to match situational constraints, accepting situational constraints, and positively reinterpreting them |
| Negotiation: Efforts directed at finding new options for coping by seeking a compromise between one's priorities and constraints |
| Submission: A passive and repetitive focus on the negative and damaging features of a stressful situation |
| Opposition: Efforts at projecting causes of stress on others and adopting an aggressive posture |

BRIDGING THE GAP: HIGHER ORDER THEORIES OF COPING

In contrast to the lower order coping dimensions reviewed, this next section details coping theories that delineate structural distinctions between coping processes at a higher order level of analysis and have not been as extensively evaluated in empirical settings. This body of research differs from the study of lower order coping inventories in that these theories seek to distill much of the variance associated with lower order inventories by collapsing these factors according to underlying conceptual commonalities among constituent factors, producing a theoretically grounded and parsimonious system. This elevated standard of parsimony results in a set of higher order coping factors that differentiate the entirety of potential coping strategies along a few core dimensions. A classic example of a higher order theory of coping is Lazarus and Folkman's (1984) problem-focused versus emotion-focused coping distinction. In many cases, these higher order theories of coping are purely conceptual systems and are not operationally attached to existing measures (as in Lazarus and Folkman's, 1984, problem-focused/emotion-focused coping and their coping inventory, the Ways of Coping Questionnaire).

In some cases, researchers develop and validate inventories that are notably more parsimonious than rivaling inventories and the dimensions seem functionally more abstract when compared to the lower order inventories reviewed previously. Some examples of these more parsimonious models are Amirkhan (1990) and Endler and Parker (1990). A key limitation of these systems is that they are far less frequently subjected to empirical assessment, and their relationship to prevalent lower order theories is not well understood. These conceptual systems are now presented and are defined in Table 2.

Two-Dimensional Higher Order Systems

The two-dimensional structure is the most basic coping structure widely seen in the literature. There have been several influential two-dimensional theories, although none have been more so than Lazarus and Folkman's (1984)

problem-focused/emotion-focused view of coping. This view of coping categorizes all coping dimensions based on their similarity to either problem-focused or emotion-focused coping archetypes. Problem-focused coping strategies are defined by their focus toward managing or altering the problem causing the distress, whereas emotion-focused coping strategies are noted for their focus toward regulating emotional responses to the distress (Lazarus & Folkman, 1984). According to this view of coping, coping strategies that are directed at changing the environmental conditions giving rise to feelings of stress directly are functionally and conceptually unique from strategies that are directed inward toward altering or reconstruing one's emotional response to such conditions. Although this view of coping has been quite influential, the existence of this empirical structure has yet to be formally examined in contrast to alternative structures.

A different two-dimensional coping model rooted in classic motivational research holds distinct advantages over

TABLE 2
Higher Order Systems Construct Definitions

| <i>Authors</i> | <i>Construct Definitions</i> |
|--|---|
| Two-dimensional models Lazarus and Folkman (1984) Krohne (1993); Roth & Cohen (1986) Brandstadter & Renner (1990) | Problem-focused: Coping aimed at managing the problem causing the stress Emotion-focused: Coping aimed at regulating emotional responses to the stress Approach: Cognitive and emotional activity oriented toward the source of stress Avoidance: Cognitive and emotional activity oriented away from the source of stress Assimilation: Transforming circumstances in accordance with preferences Helplessness: Adjusting personal preferences to situational constraints Voluntary: Responses to stress that involve volition and conscious effort Involuntary: Responses to stress that are automatized |
| Compas, Connor, Osowiecki, & Welch (1997) | |
| Three-dimensional models Moos & Billings (1982) | Problem-focused: Seeks to modify or eliminate the source of stress Emotion-focused: Manage the emotions caused by source of stress Appraisal-focused: Involves attempts to define meaning of a stressful situation Primary control: Effort to influence objective events Secondary control: Efforts to maximize one's fit with the current situation Relinquishment of control: Forfeiture of control |
| Heckhausen & Schulz (1995) | |
| E. A. Skinner, Edge, Altman, & Sherwood (2003) | Autonomy: Coping efforts directed at coordinating actions directly within the environment Competence: Coping efforts directed at coordinating one's own preferences, flexibly adjusting preferences to match available options and situational constraints. Others: Coping efforts that coordinate individual's reliance on others with the social resources available in the environment |
| Four-dimensional models Carver, Scheier, & Weintraub (1989) | Problem-focused: Coping aimed at directly changing the stressful condition Distraction: Coping aimed at avoiding the stressor by engaging in alternate activities Avoidant: Coping aimed at avoiding the stressor by physically or mentally distancing oneself Support: Seeking instrumental aid or emotional comfort from others |
| Five-dimensional models Ayers, Sandler, West, & Roosa (1996) | Problem solving: Active efforts aimed directly toward the source of stress, including all behavioral or cognitive efforts directed at instrumentally changing environmental conditions Seeking support: Soliciting emotional comfort, instrumental assistance, or spiritual guidance from outside parties Avoidance: Attempts to escape stressful conditions by physically or mentally withdrawing from the source of stress Distraction: Active attempts to deal with a stressful situation by engaging in alternative, more pleasurable activities Cognitive restructuring: Active attempts to change one's view of a stressful situation to view it in a more positive light |

the problem-focus/emotion-focus distinction. The approach versus avoidance distinction is analogous to the “fight or flight” response, and distinguishes between those strategies that impel the individual toward environmental conditions in attempts to directly address the stressor (approach coping) versus those attempts that drive the individual away from the source of stress (avoidance coping). This view of coping is differentiated from other conceptualizations by focusing on similarities among strategies in terms of their orientation toward (or away from) the stressor (Krohne, 1993; Roth & Cohen, 1986). This distinction is also theoretically advantageous since it has the advantage of granting a central role to the effects of negative emotion (Kramer & Yoon, 2007), consonant with recent observations by leading coping theorists (Folkman & Moskowitz, 2004). Despite these advantages, a hierarchical structural model based on this perspective has not yet been formally examined in the literature.

Recently, some researchers have granted primacy to the motivational system dictating approach-avoidance tendencies, positing that these systems may constitute a core dimension of personality, superseding other regulatory systems (Gray, 1994). This research has noted strong similarities across fundamental motivational, action and emotional systems that raise the possibility that such systems may represent singular personality dimensions (Carver et al., 2000). According to this view, the BAS directs movement toward goals, while the BIS inhibits behavior and stifles movement toward goals.

Another two-dimensional variation distinguishes attempts to assimilate or transform environmental conditions in accordance with personal preferences (Freund & Baltes, 2002) and helplessness, or accommodative strategies that adjust personal preferences to match environmental constraints (see Table 2). A final two-dimensional theory organizes coping strategies according to the degree of effort and volition required in their execution (Compas, Connor, Osowiecki, & Welch, 1997; Mattlin, Wethington, & Kessler, 1990). Complete definitions of these higher order constructs are included in Table 2.

Three-Dimensional Higher Order Systems

One of the more popular three-dimensional higher order conceptual systems is an extension of Lazarus and Folkman’s (1984) classic problem-focused/emotion-focused system. This system incorporates both problem and emotion-focused dimensions, but adds a third dimension. This new dimension, termed meaning-focused or appraisal-focused coping is directed at deriving new meanings from environmental conditions (Moos & Billings, 1982; Park, Folkman, & Bostrom, 2001).

Another higher order theory distinguishes coping strategies that differ along the dimensions of perceived control (Heckhausen & Schulz, 1995). Primary and secondary control strategies are differentiated from control forfeiture strategies where individuals either actively or passively relinquish control or attempts at control over their environment (see Table 2).

A final three-dimensional higher order strategy differentiates between coping efforts characterized by autonomy, competence, or social foci. This conceptualization derives from E. A. Skinner et al.’s (2003) view of coping based on a theory of action types.

Empirically Generated Higher Order Systems

An additional higher order system is a model of a second order factor analysis of 13 lower order coping dimensions developed by Carver et al. (1989). Their analysis revealed a four-dimensional higher order structure consisting of an active coping dimension, a social coping dimension, a meaning-based coping dimension, and an avoidant dimension.

The final higher order system considered is the least parsimonious. Ayers, Sandler, West, and Roosa (1996) proposed a novel five-dimensional structure that differentiated between problem solving, support seeking, avoidance, distraction, and cognitive restructuring strategies. This structure is tested in the studies that follow.

It is apparent based on the preceding review of the most influential lower and higher order coping systems that the fundamental issue of coping dimensionality is still of concern to coping researchers. One potential explanation for the wide disagreement found in this literature relates to the fact that scholars have emphasized either the lower order or higher order levels of analysis, thus contributing to the strong distinctions across levels of specification. The remainder of this article seeks to unify these divergent perspectives by considering multiple hierarchical models of coping simultaneously.

SEEKING CONCEPTUAL CONVERGENCE ACROSS CONCEPTUAL SYSTEMS: RATIONAL SORTING

To address the disjuncture between lower order and higher order coping models, we employed a rational sorting task to assess convergence statistically. Thus, prior to testing competing hierarchical conceptualizations, we attempt to bring these two levels together more systematically by using trained coders to assess convergence between lower order dimensions and higher order conceptual systems. This step follows the prescriptions advanced by E. A. Skinner et al. (2003). This foundational work involves establishing the (reliable) assignment of lower order dimensions to higher order categories by independent raters using rational sorting techniques. This approach carries the advantage over the few higher order systems in the literature which are usually limited by either (a) purely empirically driven assignment of lower order categories to higher order categories or (b) purely theoretical higher order categories with no clear mapping to observable measures or lower order categories. This task ensures that the resulting assignments are independently verifiable and thus minimizes sample-specific and researcher biases.

Procedure

Two coders were recruited and trained for this study. The coders consisted of graduate students trained in psychology possessing only a basic familiarity with coping research to ensure that coders would not bring pre-existing bias to the coding task and would base their judgments on the construct definitions provided. Coders were provided with construct definitions and sample items from the 12 dimensions of the E. A. Skinner et al. (2003) lower order scales. For the E. A. Skinner et al. model, existing items from other scales found in the literature could be used to represent several of the more common dimensions, due to the fair amount of conceptual overlap (recall E. A. Skinner et al.'s model derived from the most commonly observed scales across inventories). In instances where no existing items could be found, items were generated using the authors' original definitions for the purposes of rational sorting and subsequent empirical assessment.

Coders were also given definitions for the nine higher order coping systems reviewed in the previous section and displayed in Table 2. Coders were asked to familiarize themselves with definitions from each of the three lower order inventories and the nine higher order coping systems. Coders began with a single lower order inventory and assigned lower order constructs to higher order systems according to perceived similarities among the definitions. After making assignments within each higher order system, coders proceeded to consider the next lower order inventory, proceeding in this manner until all three lower order inventories had been assigned to each of the nine higher order models proposed. Thus, the goal of this task was to ensure that the assignment of items to constructs at the lower order level and constructs to hierarchies at the higher order level were reliable and not based on researcher bias.

Results

The interrater reliability ratings were computed using Cohen's kappa (Cohen, 1960). This statistic shows the nature of the assignments of lower order categories to higher order systems and the relative agreement among coders in making these assignments while controlling for the level of agreement that would occur by chance. This rational sorting approach is preferable to researcher assigned categories and brings to bear standards of reliability prior to the empirical testing of these models. From these results, there is a moderate level of convergence between the lower order dimensions and higher order coping theories with respect to the level of agreement, providing evidence of the disjuncture between lower order scales and higher order coping models. It appears that the dimensions of the E. A. Skinner et al. (2003) scale were fairly reliably assigned across higher order models ($\kappa = .64$). We found no relation across these inventories between model dimensionality and

reliability ($\kappa_{2d} = .65$ vs. $\kappa_{3d} = .64$ and $\kappa_{4\&5d} = .69$). This result is somewhat surprising, as it might be assumed that the simpler two-dimensional structures would be the most reliable. In fact, the four- and five-dimensional models (Models 8 and 9) perform marginally better, although the distinction is rather modest.

Discussion

The results of the coding task reveal several interesting points regarding coping theory and measurement. First, the results clearly show a disjuncture between lower order coping scales and higher order conceptualizations, as evidenced by the modest reliability ratings. The finding of a disconnect between higher order and lower order construct definitions across levels of analysis exposes the importance of considering both levels concomitantly in order to avoid construct misspecification due to lack of definitional clarity. However, these results also indicate that higher order coping systems can also be reliably mapped to lower order scales in many cases. Regardless, this research is not centrally focused on advancing understanding of specific lower order model per se; rather, these findings point to the need to investigate the structure of coping hierarchically.

Another interesting finding from this coding exercise was that the reliability of model assignment did not appear to be a function of the complexity of the various models. The three-, four-, and five-dimensional model structures were assigned as reliably as the simpler, more parsimonious two-dimensional structures. In the next study, we more explicitly examine these relations empirically by simultaneously modeling multiple levels of the coping construct to build a better understanding of the hierarchical nature of coping.

STUDY 1: AN EMPIRICAL TEST OF ASSOCIATIONS BETWEEN LOWER ORDER MEASURES AND HIGHER ORDER COPING SYSTEMS

After having established conceptual linkages across levels of coping, the goal of Study 1 is to empirically test these competing hierarchical models to determine which best represents the underlying structure of coping. Study 1 adopts an integrative approach comparing lower order coping inventories and higher order theories simultaneously. The context for Study 1 was a situation-specific (situational) stress context. This context (as opposed to a dispositional context) was chosen because the situation-specific scenario ensured a high degree of heterogeneity across the types of coping episodes reported, consistent with our goal of observing a general structure of coping. Study 2 examines various coping structures using a dispositional approach, consistent with current methodological prescriptions stressing the importance of both approaches. The procedure for Study 1 is described later.

Procedure

The procedure for Study 1 was chosen to maximize consistency with earlier coping research. Consistency was essential to provide the most accurate test possible of the various competing models. Three hundred sixty-five undergraduates were recruited for participation. Respondents were asked to read a brief introductory paragraph adapted from Carver et al. (1989), wherein they were instructed to consider how they cope with a particular stressful event from the past month. Respondents were encouraged to think about all of the thoughts, emotions, and actions that they took when confronting stress in their life. After reading the introductory paragraph, respondents then answered coping items on 5-point scales ranging from 1 (*don't cope this way at all*) to 5 (*cope this way a lot*). Upon completing these items, respondents were thanked and debriefed.

The coping items were taken to represent each of the 12 underlying dimensions of the E. A. Skinner et al. (2003) theoretical model of coping based on the rational coding exercise. The resulting model consisted of 41 items chosen to represent the 12 proposed dimensions of E. A. Skinner et al. The items were selected from the E. A. Skinner et al. construct definitions and validated in the coding procedure. The empirical performance of this model has not been reported in the literature, thus as a prelude to our hierarchical assessment we report the goodness of fit of this 12-dimensional view.

Results

First, we assessed the goodness of fit of the lower order coping models using confirmatory factor analysis in LISREL 8.5. For the E. A. Skinner et al. (2003) model, the first confirmatory model examined specified all 41 items loading on their 12 respective dimensions. Estimation of the measurement models was assisted by constraining the first item loading to 1.0 for each construct in the measurement model. The overall model fit was not good: $\chi^2(713, N=365) = 1,374.73, p < .001$; (SRMR) = .063, (CFI) = .86, root mean square error of approximation (RMSEA) = .049; and the modification indexes indicated some items were not loading on any coping factors and hence were deleted.¹ Four such items were dropped, leaving 37 items representing each of the 12 dimensions (see the appendix for specific items). The fit indexes indicated that this revised model provided a strong fit to the data: $\chi^2(563, N=365) = 1,030.32, p < .001$; SRMR = .059, CFI = .93, RMSEA = .046; and each individual item loaded significantly on its assigned factor. The chi-square/degree of freedom ratio for the measurement

model was 1.89, indicating good model fit (Kline, 1998). However, several competing models were fit to verify that this 12-dimensional structure provided the best fit to the data, providing evidence of both the discriminant and convergent validities of each of the 12 dimensions.

The first discriminant validity test involved specifying 8, 9, 10, and 11 factor models also be fit to the data. These models were tested to see if a more parsimonious model might fit the data equally well. In all cases, the chi-square difference tests suggest that the 12-factor model provides a statistically significant advantage in model fit over each rival model.

A second set of discriminant validity tests were conducted also with the goal of eliminating rival models. The goal of these additional tests was to verify the independence of all 12 coping dimensions. These models were constructed by collapsing the dimensions with the highest intercorrelation, setting this correlation to one and refitting the model. Table 3 shows the four chi-square difference tests of the most correlated factors (with correlations > .50). If these comparative models collapsing the dimensions with the highest intercorrelation result in significantly worse fit, this provides sufficient evidence of the discriminant validity of all 12 of the dimensions. These four model tests collapsed the conceptually similar dimensions of self-reliance and information seeking, problem solving and information seeking, escapism and helplessness, and delegation and opposition. In all cases, these models provided a statistically significantly worse fit to the data. Thus, the discriminant analyses found evidence for the presence of 12 coping dimensions in the case of the lower order coping model. Therefore, the subsequent hierarchical investigation proceeds using the 12-dimensional structure.

Higher Order Model Results

The higher order models described in the conceptual section and operationalized via rational sorting by independent coders were fit for the 12-dimensional lower order coping model (see Table 4). Coding disagreements resulting from the rational sorting task were settled by us relying on the original construct definitions. This resulted in unique correspondence between the three lower order coping systems and the nine higher order conceptualizations under investigation. The results displayed in Table 4 indicate moderate variability across the two-, three-, four-, and five-dimensional hierarchical models with respect to hierarchical model goodness of fit. Specifically, it appears that the class of two-dimensional models provide slightly better fits than the less parsimonious three-, four-, and five-dimensional models according to the fit statistics (see chi-square and Consistent Akeike Information Criterion [CAIC] in Table 4). The CAIC result is particularly noteworthy in that this statistic adjusts for model complexity, meaning the relative complexity of the three-, four-, and five-dimensional models is taken into account in the assessment of model fit. Of the

¹The Comparative Fit Index (CFI) is an incremental fit index that does not account for model complexity. The Standardized Root Mean Square Residual (SRMR) is an index based on the covariance residuals, and the root mean square error of approximation is another such index that has a known distribution.

TABLE 3
Discriminant Validity Results of Lower Order Models of Coping

| <i>Model Tested</i> | <i>Dimensions Compared</i> | <i>Dimension Intercorrelation^a</i> | $\Delta\chi^2(1)$ | <i>p</i> |
|---------------------|--|---|---------------------|----------|
| 1 | Self-reliance versus information seeking | $r = .66$ | $\chi^2(1) = 48.1$ | <.001 |
| 2 | Escapism versus helplessness | $r = .51$ | $\chi^2(1) = 49.34$ | <.001 |
| 3 | Delegation versus opposition | $r = .51$ | $\chi^2(1) = 57.02$ | <.001 |
| 4 | Problem-solving versus information seeking | $r = .50$ | $\chi^2(1) = 81.09$ | <.0001 |

^aAll other lower order intercorrelations were < .50 and were associated with significantly worse model fits at the $p < .0001$ level.

TABLE 4
Mapping of E. A. Skinner, Edge, Altman, and Sherwood's (2003) Hypothesized Lower Order Constructs on Competing Hierarchical Models

| <i>Model Tested</i> | <i>Higher Order Constructs</i> | χ^2 | <i>SRMR</i> | <i>CAIC</i> |
|---|--|----------|-------------|-------------|
| Two-dimensional models | | | | |
| Lazarus & Folkman (1984) | Problem-focused, emotion-focused | 673.37 | .05 | 2002.58 |
| Krohne (1993); Roth & Cohen (1986) | Approach, avoidance | 634.54 | .049 | 1952.50 |
| Brandstadter & Renner (1990) | Assimilation, helplessness | 673.37 | .053 | 2002.5 |
| Compas, Connor, Osowiecki, & Welch (1997) | Voluntary, involuntary | 642.87 | .055 | 1958.67 |
| Three-dimensional models | | | | |
| Moos & Billings (1982) | Problem-focused, emotion-focused, Appraisal-focused | 652.25 | .05 | 1970.70 |
| Heckhausen & Schulz (1995) | Primary control, secondary control, relinquishment of control | 685.79 | .06 | 2004.39 |
| Skinner et al. (2003) | Autonomy, competence, others | 689.71 | .06 | 2008.14 |
| Four-dimensional models | | | | |
| Carver, Scheier, & Weintraub (1989) | Problem-focused, distraction, avoidant, support | 696.49 | .063 | 2019.78 |
| Five-dimensional models | | | | |
| Ayers, Sandler, West, & Roosa (1996) | Problem-solving, social support, avoidance, distraction, cognitive restructuring | 775.69 | .06 | 2089.27 |

Note: For all models tested, $df=509$.

two-dimensional models, the approach-avoidance motivational conceptualization appears to provide a slightly better fit than rivaling two-dimensional models. Also of note is that the problem-focused/emotion-focused model does not appear to be among the best-fitting models. More is said of this result in the Discussion section that follows. Examining these models further, Table 5 reports the significance of the individual model parameters for each of the E. A. Skinner et al. (2003) models tested. In total, across all nine models, approximately 65% of the lower order dimensions loaded significantly on their assigned higher order factor. These results also show that for each of the models tested, multiple conceptually supported, lower order dimensions do not load significantly on their assigned construct and that several dimensions cross-load significantly on multiple higher order dimensions. In particular, it appears that the information seeking, delegation, and support seeking dimensions cross-loaded the most, indicating that these dimensions span multiple hierarchical factors. Also, it appears the three-, four-, and five-dimensional models have more cross-loading than do the two-dimensional models. Taken together, the results of Table 5 suggest a divergence between the conceptual construct definitions and their empirical performance.

TABLE 5
Mapping of Individual Lower Order Dimensions Onto Higher Order Factors for the 12-Dimensional E. A. Skinner, Edge, Altman, & Sherwood (2003) Model

| <i>Model Tested</i> | <i>Parameter Significant at $p < .05$</i> | <i>Cross-Loading Dimensions</i> |
|--|---|---------------------------------|
| Skinner et al. | | |
| Problem versus emotion-focused | 6/12 | — |
| Approach versus avoidance | 9/12 | SIS, SD |
| Assimilation versus helplessness | 6/12 | — |
| Voluntary versus involuntary | 7/12 | SIS, SH, SD |
| Problem versus emotion-focused versus appraisal-focused | 7/12 | SIS, SSR |
| Primary versus secondary versus relinquishment | 9/12 | SIS, SD, SSS |
| Autonomy versus competence versus others | 9/12 | SIS, SI, SN, SSS |
| Problem-focused versus distraction versus avoidant versus support | 8/12 | SPS, SIS, SA, SSR |
| Problem solving versus social support versus avoidance versus distraction versus cognitive restructuring | 9/12 | SIS, SD, SSS |

Note: SPS=problem solving; SIS=information seeking; SH= helplessness; SA=avoidance; SSR=self-reliance; SSS=support seeking; SD=delegation; SI=isolation; SN=negotiation.

Discussion

The primary contribution of Study 1 is that this study directly addresses the question of coping dimensionality across competing hierarchical coping structures. The results provide moderate evidence in support of a two-dimensional hierarchical structure of the coping construct, in contrast to the three-, four-, and five-dimensional higher order models found in the literature. The class of two-dimensional models, in addition to being more parsimonious, also provided slightly stronger model fits. Also noteworthy in examining the comparative fit results is that the higher order model with significant influence in the literature based on a problem-focused/emotion-focused distinction does not sufficiently outperform the other models. This result suggests that future coping research should investigate the possibility that other hierarchical theories underlie coping phenomena. In particular, the approach–avoidance conceptual structure evinced somewhat stronger relative model fits than the other two-dimensional models, suggesting that coping’s structure may more closely conform to the theoretical definitions contained in this unique hierarchical view of coping. Although, it is important to note that the relative differences in model fit were quite small. Taken together, these results cast the structure of coping debate in a different light. By directly comparing multiple theoretical specifications using both rational sorting and psychometric measurement, this research is able to provide a strict test of rival structures found in the literature.

Another considerable conceptual advantage of the class of two-dimensional models is their concordance with systems of action types, a necessary condition of any structural coping system (E. A. Skinner et al., 2003). In the domain of emotions, empirical research has found broad support for the role of two independent factors, representing positive and negative emotions (Watson & Tellegen, 1985). Regulatory focus and self-discrepancy theory (Higgins, 1997) relate self-regulation to two unique sets of goals, approach and avoidance. Additional research discusses the relation between self-regulation, discrepancy-reducing goals, and discrepancy-expanding goals that work to move individuals toward or away from specific goals. These two dimensions seem to also resonate with personality research suggesting the predominance of neuroticism and extraversion dimensions, and researchers have suggested these similarities should be examined more rigorously (Carver et al., 2000).

CONTRIBUTION TO THE COPING LITERATURE IN CONSUMER BEHAVIOR

These findings also speak to the growing consumer coping literature. More important, study one showed that the predominant model of coping found in the consumer behavior literature, problem-focused and emotion-focused coping, may not be empirically stable. This study found evidence

for a view of coping based on approach versus avoidance. It is possible that the literature’s focus on problem versus emotion-focused differences has hindered progress linking coping to key nomological antecedents. Perhaps respecifying coping processes in terms of approach–avoidance will allow for greater progress along this dimension. At the very least, existing theories based on the extant view of coping should be revisited in order to determine if and how approach and avoidance coping maps onto extant findings.

Another important finding from Study 1 is that, across all models, there exists a disjuncture between conceptual definition and empirical performance. This disjuncture manifest through both the significant cross-loading of lower order items onto multiple higher order dimensions and the nonsignificant loadings of multiple lower order dimensions onto their assigned higher order construct across two-, three-, four-, and five-dimensional specifications. These findings bolster the view that any hypothesized coping structure should be examined at multiple levels of analysis and linked to a meaningful higher order conceptual system to determine its validity.

Although the results of Study 1 were fairly conclusive in demonstrating the superiority of a two-dimensional hierarchical structure of coping, it should be noted that these findings were obtained using an episodic focal stress stimulus. Recent research has called for coping structures to be examined using both episodic and dispositional methods. Thus, Study 2 is undertaken to determine whether Study 1’s findings can be partially attributed to reliance on a particular coping method.

Previous coping research has demonstrated important differences resulting from the methods used to measure coping (Schwartz, Neale, Marco, Shiffman, & Stone, 1999; Stone et al., 1998; Todd et al., 2004). This research distinguishes between daily assessments of coping, episodic or situation-specific coping, and dispositional coping. These studies showed low to moderate correlation across these methods for most coping behaviors. It should be noted that these findings apply to lower order coping structures, not hierarchical or higher order structures. Several potential explanations for the discrepancies exist. Todd et al. theorized that individuals completing trait measures of coping may focus on how they coped with an extremely stressful encounter as a reference point in determining how they usually cope. Another possibility is that individuals completing trait measures compute an average of all coping experiences in reporting coping behaviors. These results seem to suggest that structural results obtained from one method may not generalize to results collected using another method. If individuals complete trait measures by relying on the reference point suggested by an extreme stress encounter, this would suggest that the results of Study 1 may generalize. However, if individuals use an averaging technique in completing trait measures, there may not be strong concordance between episodic and dispositional coping. Another possibility is that hierarchical structures are inherently more stable than the lower order structures examined previously.

Because empirical research has not yet examined whether this distinction affects coping's hierarchical structure, the focus of Study 2 investigates this question and sheds light on the underlying processes used to report trait coping.

To facilitate this examination, a dispositional approach to coping is adopted in Study 2 to complement the situation-specific approach of Study 1. Thus, Study 2 again focuses on validating the hierarchical structural theory of coping of E. A. Skinner et al. (2003). Therefore, if the hierarchical findings from Study 1 replicate, this result should extend to the other lower order models that have been validated in multiple settings. Further, the primary emphasis of Study 2 is concerned with replicating hierarchical structures using a different methodology, not comparing the performance of the 12-dimensional lower order model per se, as is done in previous research (Todd et al., 2004).

STUDY 2: A DISPOSITIONAL APPROACH

The primary goal of Study 2 is to test the generalizability of the hierarchical results of Study 1 to dispositional coping structures. Extant research has shown that dispositional measures of coping need not correlate strongly with situation-specific measures (Schwartz et al., 1999), thereby raising the possibility that the structural relations observed in Study 1 may not accurately generalize to the dispositional case.

In addition, the E. A. Skinner et al. (2003) review recommends employing both dispositional and situation-specific approaches to the study of coping, consistent with Lazarus and Folkman's (1984) transactional framework, wherein both state and trait influences could exert influence on coping dimensionality. In fact, it may be expected that dispositional coping may exert more structural stability than situation-specific coping, as it may be more closely tied to stable personality factors. Therefore, the question remains as to whether or not this structure can be observed using trait measures. The dispositional methodology employed in Study 2 is presented in the following.

Procedure

In Study 2, 167 undergraduate participants were recruited for participation. The procedure for Study 2 was similar to that used in Study 1, but differed in one important respect. Recall in Study 1, respondents were instructed to consider a focal stress incident experienced within the past month, relating how they adapted to that specific stress episode. In Study 2, the instructions are much broader. This method for assessing dispositional coping has been well-established in the coping literature (cf. Todd et al., 2004). These respondents were asked to consider how they generally reacted to stressful events in their life. The specific procedure employed was adapted from Carver et al. (1989). Respondents were encouraged to think about all of their thoughts, emotions, and

actions when confronting stress in their life. After respondents read the protocol, they were presented with the set of 37 E. A. Skinner et al. (2003) coping items administered in Study 1 and included in the comparative model examination.

Results

The first analysis examined the lower order coping structure observed in Study 1, to facilitate the examination of hierarchical coping in a dispositional context. Thus, the 12-dimensional structure identified in Study 1 was examined. The fit indexes related to this model suggested that this structure again provided an adequate fit to the data. The final 37 item model found in Study 1 provided a strong fit to the data: $\chi^2(563, N=167)=743.15, p < .001$; SRMR=.08, CFI=.92, RMSEA=.04. As in Study 1, additional rival models were fit to establish the discriminant validity of the 12-dimensional structure. As was the case in Study 1, all tests of discriminant validity were conducted by collapsing conceptually similar dimensions. The results replicated Study 1 findings in a dispositional context, offering support for the 12-dimensional structure.

Higher Order Model Results

The correspondence between higher order coping conceptualizations and lower order coping dispositions was next examined (see Table 6). As was the case in Study 1, the model fits suggest differences across the two-, three-, four-, and five-dimensional models. The two-dimensional models provide better fits to the data, outperforming the three-, four-, and five-dimensional models, although this effect is less pronounced than in Study 1. Thus it appears that the two-dimensional result is robust across situation-specific and dispositional forms of coping. In addition, for reasons of parsimony, the two-dimensional models carry distinct advantages over rival specifications.

Discussion

Study 2 reveals several interesting insights. First, because it largely replicates the results of Study 1 using a different method, it suggests two possible conclusions. The first pertains to the apparent generality of hierarchical coping structures. Because these more general coping structures may represent more fundamental, personality-driven properties, they could be less susceptible to bias due to methodological variation. Thus, due to the emphasis on higher level abstraction in hierarchical, versus lower order models, greater concordance across methods obtains. A second possible conclusion from Study 2 is that the structural replication of Study 1 suggests that the underlying processes consumers use in completing these tasks is similar across methods. This result is congenial with the extreme stress method suggested by Todd et al. (2004).

TABLE 6
 Study 2 Replication of Mapping of E. A. Skinner, Edge, Altman, and Sherwood's (2003) Hypothesized Lower Order
 Constructs on Competing Hierarchical Models

| <i>Model Tested</i> | <i>Higher Order Constructs</i> | χ^2 | <i>SRMR</i> | <i>CAIC</i> |
|---|--|----------|-------------|-------------|
| Two-dimensional models | | | | |
| Lazarus & Folkman (1984) | Problem-focused, emotion-focused | 670.18 | .068 | 1774.4 |
| Krohne (1993); Roth & Cohen (1986) | Approach, avoidance | 671.30 | .072 | 1771.52 |
| Brandstadter & Renner (1990) | Assimilation, helplessness | 670.18 | .068 | 1774.43 |
| Compas, Connor, Osowiecki, & Welch (1997) | Voluntary, involuntary | 692.87 | .09 | 1789.97 |
| Three-dimensional models | | | | |
| Moos & Billings (1982) | Problem-focused, emotion-focused, appraisal-focused | 675.27 | .073 | 1774.87 |
| Heckhausen & Schulz (1995) | Primary control, secondary control, relinquishment of control | 678.08 | .067 | 1776.57 |
| E. A. Skinner et al. (2003) | Autonomy, competence, others | 705.91 | .076 | 1800.89 |
| Four-dimensional models | | | | |
| Carver, Scheier, & Weintraub (1989) | Problem-focused, distraction, avoidant, support | 674.91 | .08 | 1774.47 |
| Five-dimensional models | | | | |
| Ayers, Sandler, West, & Roosa (1996) | Problem-solving, social support, avoidance, distraction, cognitive restructuring | 692.60 | .073 | 1788.88 |

Note: For all models tested, *df*=509.

In addition, the structural findings of Study 2 seem to bolster the findings of Study 1, with regards to the lower order model posited by E. A. Skinner et al. (2003). This suggests that this conceptualization may warrant additional empirical research. The findings also suggest that future research may be able to replicate models hierarchically, due to these models more proximal relationship to personality-driven processes. Also of note is the failure of the predominant problem-focus versus emotion-focus view to outperform the other two-dimensional models. This suggests additional research is needed to develop a better understanding of these rival models, including the approach-avoidance model.

Although the measurement results were not overwhelming, it is important to consider these findings in the proper context. Coping has proved to be a particularly difficult construct to measure, with many of the widely used inventories failing to replicate in various empirical tests. Also, because there are few reported attempts to model coping hierarchically found in the literature, it is difficult to compare this research with existing findings. The relatively small differences in model fits may very well be a function of the hierarchical modeling approach used (E. A. Skinner et al., 2003). Thus, this research points to the need for triangulation across methodologies to provide more sensitive means of drawing out nuanced differences between higher order models, particularly the two-dimensional models. Our results are suggestive of the superiority of the class of two-dimensional models, although additional replications in different populations (different researchers utilizing different methods) are needed to validate these results. To address the issue of triangulation, we conduct Study 3 to directly compare these alternative theories experimentally.

STUDY 3: COMPARING MODELS VIA COPING THEORY

The goal of Study 3 is to directly compare the approach-avoidance coping theory with the predominant problem-emotion focus distinction found in the literature. This study directly contrasts the effect of two primary consumption-related emotions, fear and anger on the approach-avoidance higher order model suggested by Studies 1 and 2 with the problem-focus/emotion-focus model prevalent in the literature. Appraisal theories of emotion have linked both anger and fear to specific forms of coping in theoretically meaningful ways (Lazarus, 1991). Because emotions are thought to be the proximal antecedent of coping, examining relations between discrete emotions and coping will address the issue of which higher order coping model (approach-avoidance or problem-focus/emotion-focus) most accurately predicts emotional regulation. The key predictions related to these alternate theories are now delineated.

According to appraisal theory, anger is experienced when consumers perceive that harm has been brought to them (or a valued possession or loved one) by another (Lazarus, 1991). This emotion induces a tendency to engage in active coping behaviors, mapping onto both approach and problem-focus coping theories. By manipulating anger and measuring responses on both the approach and problem-focus coping scales, a direct comparison of the efficacy of these scales in capturing emotion-driven coping responses can be assessed. If our findings of Studies 1 and 2 are robust, theory would predict that the anger induction would produce significantly more approach coping, vis-à-vis the emotional induction of fear. However, if the problem-focus coping scale were accurate, we would expect to

find that the anger induction results in more problem-focus coping, vis-à-vis the emotional induction of fear. These two comparisons allow for the determination of which scale is sensitive to theoretically predicted differences in emotional responses to anger, a primary consumption emotion.

With respect to fear, appraisal theory suggests that fear is experienced in response to imminent physical or emotional threat (Lazarus, 1991). This threat experience usually activates consumers' tendency to distance oneself from the perceived source and engage in avoidance or emotion-focused coping. By manipulating fear and directly observing the consequences for coping, a direct examination of the efficacy of the avoidance coping scale can be obtained. If the results of Study 1 and Study 2 generalize, the theoretical prediction related to consumers' experience of fear is that the avoidance scale will be sensitive to the induction of consumer fear, resulting in significantly more avoidance coping vis-à-vis anger. These predictions are tested in Study 3 to provide convergent evidence of the theory underlying the approach-avoidance model versus the problem-focus/emotion-focus coping scales.

Procedure

In Study 3, 65 undergraduate participants were recruited for participation. The design was a 2 (neutral, high anger) × 2 (neutral, high fear) between-subject design. Participants in the high anger condition were first instructed to recall a time when they experienced extreme anger as a consumer. Their instructions read: "Thank you for agreeing to participate in this consumer behavior study. Today we are studying how people recall emotional incidents. Think about a time when you experienced extreme anger as a consumer. Please recall this incident as vividly as you can." The procedure was the same in the high fear condition, except participants were instructed to recall a time they experienced extreme fear. In the neutral conditions, participants were told that the purpose of the study was to examine how people recall their daily lives. They were told to recount a typical, mundane day in their daily life and provide details about activities and thoughts that surround a typical day.

After the emotion induction, participants were told that the next phase of the study was interested in assessing their responses to stressful life events. Respondents then answered the 37 items administered in Studies 1 and 2. The

respondent instructions were identical to the dispositional procedure used in Study 2. The dispositional approach was adopted to reduce the effect of demand by diminishing the likelihood that respondents would connect the emotional induction with their responses to the coping scales.

Results

The first stage of analysis involved constructing composite scales for each of the four higher order constructs implicated in our theoretical comparison: approach, problem focus, avoidance, and emotion focus from the 37 scale items. Reliability analyses showed that these four scales all possessed high internal consistency reliabilities. These scales were then used to compare the theoretical predictions using an analysis of variance. In the case of anger, recall our theoretical prediction is that individuals induced to experience high levels of anger would report significantly greater reliance on approach coping strategies. In fact, the results show a significant effect, $F(1, 63) = 4.06, p < .05$, on the approach coping scale as predicted by our theory. Planned contrasts were conducted comparing the high anger condition against the neutral, high fear, and high anger and high fear combined conditions in accordance with our theoretical prediction that high anger induces significantly more approach (problem-focus) coping. The high anger and high fear condition was included because modeling these dual emotions provides a sterner test of the discrete emotion anger and fear effects we predict. The results (see Table 7) show that the high anger condition produced significantly more approach coping responses than the other experimental conditions ($M_{\text{anger}} = 4.67$ vs. $M_{\text{allothers}} = 4.32$). More important, no significant effects were observed on the problem-focus scale, suggesting this scale is not as sensitive to anger responses as the approach scale. This finding offers convergent evidence for our findings of Studies 1 and 2 by showing that the approach scale is capable of discriminating theoretically predicted coping responses. Recall the purpose of the fear induction was to compare the avoidance versus emotion-focus coping scales. Our specific prediction involved demonstrating significantly greater reliance on avoidance coping in the high fear condition. Confirming our theoretical predictions, the results showed that in the case of the avoidance scale,

TABLE 7
Mean Comparisons for Theoretically Predicted Differences in Higher Order Coping

| Nature of Comparison | Approach | Problem-Focused | Avoidance | Emotion-Focused |
|--|-------------------------------|------------------------|-------------------------------|-------------------------------|
| High anger versus high fear; high fear, high anger, and neutral conditions | 4.67 versus 4.32 $p < .05$ | 4.9 versus 4.8 ns | na | na |
| High fear versus high anger; high fear, high anger, and neutral conditions | na | na | 4.49 versus 3.96 $p < .01$ | 4.49 versus 3.94 $p < .01$ |

Note: Approach: problem solving, information seeking, self-reliance, social support, delegation, negotiation, opposition; avoidance: submission, escape, helplessness, accommodation, isolation; problem-focused: problem-solving, information seeking, negotiation, self-reliance; emotion-focused: social support, delegation, opposition, submission, escape, helplessness, accommodation, isolation.

respondents in the high fear condition engaged in significantly more avoidance coping, $F(1, 64) = 5.52, p < .01$ ($M_{fear} = 4.49$ vs. $M_{allothers} = 3.96$). Taken together, these results offer strong support for the superiority of the approach–avoidance higher order coping model as demonstrated by its sensitivity to both anger and fear emotion manipulations.

Discussion

The results of Study 3 demonstrated that the approach and avoidance higher order model best captures theoretically predicted distinctions related to coping's proximal antecedents, consumption emotions. In addition, the findings reveal the relative inability of the problem-focus/emotion-focus view to effectively discriminate between key consumption emotions. These findings bolster our findings from the first two studies by demonstrating that the approach–avoidance models outperform the predominant coping model found in the literature, problem-focus versus emotion-focus coping. The findings suggest that future coping research should consider specifying coping dimensions in terms of an approach–avoidance distinction in contrast to other structural theories found in the literature.

GENERAL DISCUSSION

This research revealed several insights into the structure of coping and extends this literature both methodologically and theoretically, thus bearing significant implications for the consumer coping literature. Methodologically, this research conducted independent coding to ascertain the conceptual convergence of multiple competing coping models found in the literature across levels of analysis. These conceptually convergent hierarchical models were specified based on the coding results to directly address the question of coping dimensionality using a hierarchical approach. These findings were replicated using both situation-specific (episodic) and disposition coping contexts. Finally, the resulting structural theory based on approach–avoidance coping was examined in an experimental context, showing unique effects on theoretically predicted coping antecedents, thereby providing convergent evidence in support of this theory.

Because this research directly compares hierarchical structures using both rational sorting, structural modeling, and experimental approaches, it represents methodological advantages over previous research into coping's dimensionality. The results of the rational sorting task reinforce the basic premise underlying this research, namely that a disjuncture related to coping's dimensionality exists across levels of analysis. These results suggest that coping researchers should clearly specify the appropriate level of analysis with regards to their research question and be mindful of coping's inherently hierarchical structure.

This research also contributes to the consumer behavior coping literature theoretically and produces several new

insights. The results suggest that the best hierarchical representation of the coping construct across all three lower order models is consistent with an underlying model of two higher order dimensions. Of the two-dimensional models, it appears that the approach–avoidance model holds conceptual and empirical advantages over rival structures, most notably the influential problem-focus/emotion-focus distinction prevalent in the literature. The approach–avoidance model is empirically stable and is also congenial with recent research calling for a more integrated theory relating emotions, motivation and personality. This research finds broad support for two independent systems operating across all of these domains (Carver et al., 2000). The revised view of coping hierarchies may help explain the paucity of empirical studies in the coping literature that have shown systematic relations between coping processes and emotional antecedents. In fact, Study 3 offers direct evidence in support of this conclusion. Whereas the predominant problem-focus/emotion-focus scale was insensitive to differences in consumer emotion, the approach scales were sensitive to consumer anger and the avoidance scales appear sensitive to consumer fear, although this finding was only directionally consistent with this theoretical prediction. The findings from these three studies suggest that the consumer behavior coping literature may have much to gain from integrating theory from these other related streams of research.

These results show that attempts to bring together disparate levels of analysis under a unified structure of coping rubric can bear fruit. By marrying two distinct levels of coping theory and empirically assessing their convergence, advances in understanding can be made. In particular, the preliminary evidence garnered in this research reinforces the long held beliefs of many coping scholars, namely that the best and most parsimonious two-dimensional distinction has both theoretical and empirical advantages. However, the evidence suggesting a structure based on approach-avoidance motivational processes is a novel finding.

The results of two studies found evidence of a relatively robust two-dimensional approach–avoidance model across situation-specific and dispositional coping methods. Even more convincing were the findings from a third study using an experimental approach. Taken together, these findings provide strong evidence suggesting that previous structural coping models may be misspecified, most notably the problem-focus versus emotion-focus conceptual model. These findings offer a compelling explanation for the lack of empirical research connecting these models to emotional antecedents. These findings should also be of use to researchers examining the nature of consumer response to anticipated emotions (MacInnis & Patrick, 2006).

The primary goal of this investigation was to settle fundamental issues related to the structure of coping. These essential questions of structure must be settled before additional theory can be built—such research requires a strong measurement foundation. Although our findings provide strong evidence that coping consists of distinct dimensions, we share

the view proffered by Lazarus (2000) that coping researchers should examine interdependencies between higher order coping dimensions, rather than viewing these as independent constructs that do not operate jointly in promoting adaptation. This research takes important steps to that goal by providing evidence in support of a particular hierarchical structure.

Future research in consumer behavior should examine the potential consequences of conceptualizing coping according to approach and avoidance distinctions. Due to the great amount of research attention paid to investigating problem versus emotion-focused differences, there would seem to be a great potential for future research to more fully examine the set of emotional-, cognitive-, and personality-based antecedents and consequences of an approach-avoidance based hierarchical model of coping.

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APPENDIX

Scale Items for E. A. Skinner, Edge, Altman, and Sherwood's (2003) 12-Dimensional View of Coping

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| Problem solving | Stood my ground and fought for what I wanted Came up with a different solution to the problem I made a plan of action and followed it Changed something so things would turn out better Thought about possible ways to improve the situation |
| Information seeking | Tried not to act too hastily Work to understand the situation Be very cautious and look at all your options |
| Helplessness | Move on to other things; there's little hope for such situations getting better Know there's little you can do about this sort of thing I give up the attempt to get what I want I just give up trying to reach my goal |
| Escapism | Took my mind off of the situation Refused to think about it too much I turn to work or other activities to take my mind off things |
| Self-reliance | I restrain myself from doing anything too quickly I take time to figure out what I am feeling I delve into my feelings to understand them |
| Social support | Talked to someone about how I was feeling Accepted sympathy and understanding from someone I ask people who have had similar experiences what they did |
| Delegation | Feel sorry for myself Just become ineffective--stop functioning well Complain about the situation |
| Isolation | Avoided being with people in general I tried to keep my feelings to myself Withdrew from others |
| Accommodation | Changed or grew as a person in a good way I came out of the experience better than I went in Tried to see the positive side of the situation |
| Negotiation | I bargained or compromised to get something from the situation I tried to change someone's mind to improve the situation Tried not to burn bridges; left things open somewhat |
| Submission | I criticized or lectured myself I apologized or did something to make up Blamed myself |
| Opposition | Took it out on other people Be aggressive Blame others for their role in the problem |

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