Secondary Control Reviewed and Defined

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Conclusions about secondary control have been hindered by researchers’ disparate interpretations of the construct. The current review offers a definition that reflects commonality among researchers and the spirit of the original article (F. Rothbaum, J. R. Weisz, & S. S. Snyder, 1982): Secondary control refers to the process by which people adjust some aspect of the self and accept circumstances as they are. The authors also identify a “fit versus control” dimension, along which secondary control research can be classified and reviewed. The authors conclude that fit-focused secondary control is adaptive for coping, is relatively preferred in interdependent cultural contexts, and may serve the motivation for relatedness. Control-focused definitions lead to different interpretations of the function and cultural nature of secondary control. The proposed definition and dimension should enable researchers to articulate assumptions about the function and correlates of secondary control.

Keywords: secondary control, acceptance, accommodation, cross-cultural, coping

Over 20 years ago, three researchers proposed a construct called secondary control (Rothbaum, Weisz, & Snyder, 1982). The article suggested that people do not always choose to influence their social and physical environments (an action that would be called primary control). Instead, sometimes people flexibly adjust themselves to fit in with existing realities. The secondary control concept has inspired more than 400 citations since its introduction—it has been used to derive new hypotheses, to inspire measurement tools, and to explain unusual findings. However, in reviewing this literature, we have concluded that the concept of secondary control has frequently been reinterpreted, redefined, recategorized, and occasionally even misunderstood. Secondary control has been studied and operationalized in such diverse ways that it has been difficult to draw conclusions about who does it, when it occurs, and to what effect.

Despite the literature’s lack of coherence, secondary control has a special appeal that accounts for its diverse popularity. Secondary control may have attracted such attention because it counterintuitively frames “maladaptive” behavior, such as passivity, in positive ways. In addition, secondary control may appeal to some because it challenges traditionally Western messages about what healthy people do (Weisz, Rothbaum, & Blackburn, 1984). It emphasizes flexibility in a culture that often prioritizes certainty, decisiveness, and action. Secondary control appeals to us, and to many other researchers, because it makes reasonable a variety of behaviors that may, at first glance, seem maladaptive from the perspective of an autonomously functioning Western person. The secondary control construct potentially makes personality and coping theories more accurate by viewing actions through a more generous lens.

The present review of the secondary control literature first summarizes the claims of the original article on secondary control (Rothbaum et al., 1982). We explain how a careful reading of the original article reveals the roots of an important rift in the secondary control literature. Specifically, some researchers have emphasized that secondary control is in the service of person–environment fit, and others have emphasized that secondary control mainly serves a motivation to control the environment. We then offer an integrative definition of secondary control that is explicitly fit-focused and incorporates two distinct actions: adjusting the self and accepting the environment. We review the body of secondary control literature in light of this definition. We conclude by pointing to links between the secondary control construct and the emerging body of literature on accommodation.

Secondary control is usually contrasted with so-called “primary control.” Primary control is the construct more commonly studied as “control” in the psychological literature. Primary control as a label was coined at the same time as secondary control and was defined as “attempts to change the world so that it fits the self’s needs” (Rothbaum et al., 1982, p. 8). We will not review the vast literature on traditional control here, except as it specifically pertains to primary control’s relationship to secondary control. For a modern review of primary control, we direct readers to Skinner’s (1996) guide to constructs of control, in which personal (primary) control is defined as “self as agent, the self’s actions or behaviors as the means, and an effected change in the social or physical environment as the outcome” (p. 558).
The Original Argument for Secondary Control

The article that introduced secondary control (Rothbaum et al., 1982) was complex. Although current researchers rarely mention the purpose of that first article, the authors’ original intent was to convince researchers of helplessness that people are extremely reluctant to relinquish the perception of control. At the time the article was published, helplessness researchers equated “inward behaviors” such as passivity, withdrawal, or submissiveness with relinquished control. However, Rothbaum et al. argued that the persistent nature of these responses signals an adaptive purpose. They labeled these inward behaviors “secondary control” and argued that they promote perceptions of control and ultimately better adjustment. In essence, Rothbaum et al.’s original article was meant to emphasize the occasionally positive nature of behaviors that appeared, on the surface, to be related to learned helplessness.

Rothbaum et al.’s (1982) article, most generally, articulated that secondary control efforts are directed inward to align the self with existing circumstances. In contrast, primary control efforts are directed at the external world in order to accommodate self-interests. Rothbaum et al. identified four types of secondary control and how they lead to a sense of control. The authors contended that when people attribute outcomes to chance, they may be gaining illusory secondary control by aligning themselves with their own, characteristic good luck. Attributing negative outcomes to powerful others may lead to vicarious secondary control if they identify with these powerful others to “share” in their control. When people attribute their negative outcomes to low ability, they can predict future outcomes and control their disappointment, which can lead to predictive secondary control. Finally, the sense of meaning and understanding that people gain through these attributions may lead them to a sense of mastery called interpretive secondary control. The authors devoted much of their argument to documenting research in support of the four different categories of secondary control, although they were careful to emphasize that underlying these attributions and behaviors is a powerful motivation to fit in with the environment.

Benefits of Secondary Control

First among these claims is the authors’ assertion that people benefit from engaging in secondary control, because “attempts to fit in with the world and to ‘flow with the current’” (p. 8) help people avoid a sense of lack of control. However, while secondary control is considered adaptive, “the attempt to adjust to resistances, which characterizes secondary control, is apt to be experienced as safer and to lead to less extreme highs and lows” (p. 8) than engaging in primary control. Rothbaum et al.’s (1982) original article proposed that the adaptiveness of secondary control was likely to depend on whether people value physical health, safety, and contentment (in which case secondary control will be adaptive) or whether they value achievement and challenge (in which case primary control will be adaptive). However, they also suggested that “adaptiveness or ‘good adjustment’ be conceptually defined as a knowledge of how and when to exert the two processes of control and how to integrate them” (p. 30). Thus, their discussion of adaptiveness dovetails with their discussions of how primary and secondary control work together. Taken on its own, however, the central theme—that secondary control is beneficial—is an aspect of the original article that has received strong research support.

Secondary Control Fosters Control—or Does It?

A second major theme is the authors’ idea that secondary control maintains people’s perceived control: “Motivation to feel ‘in control’ may be expressed not only in behavior that is blatantly controlling but also, subtly, in behavior that is not” (p. 7). The label secondary control directly implies that the goal of secondary control is about maintaining perceived control. However, the authors themselves seemed to equivocate on whether the outcome of secondary control is a perception of control. For instance, in one section they write:

Whether one chooses the term control when the secondary process is salient is not crucial. Rather, at issue is how the attributions and behaviors reviewed above may be most usefully explained. We maintain that underlying these attributions and behaviors is a powerful motivation to fit in with the environment. (p. 10).

This statement suggests that secondary control serves a motive to fit in; it does not serve a motive to control. In other sections of the article, Rothbaum et al. (1982) repeat that “in the [case of secondary control] the goal is to fit in with the environment” (p. 11). Further, the authors suggest that some attributions (e.g., to limited ability after failure) “indicate a striving for secondary control” (Rothbaum et al., 1982, p. 11). Because the authors write that a behavior reflects a striving for “secondary control” rather than just a striving for “control,” one might conclude that Rothbaum et al. (1982) believed that the psychological outcome of secondary control is more about fit than about personal agency or feeling efficacious.

However, in other areas of their article, Rothbaum et al. (1982) seemed to explain that such inward behaviors are, in fact, attempts to restore perceived control. The abstract itself states that “people attempt to gain control not only by bringing the environment into line with their wishes... but also by bringing themselves into line with environmental forces” (p. 5). Later the authors write that “[inward behaviors] may be initiated and maintained in an effort to sustain perceptions of control... Because control is so valued, the quest for it is rarely abandoned; instead, individuals are likely to shift from one method of striving for control to another (p. 7).

Thus, at times Rothbaum et al. (1982) appear to mean that secondary control’s goal is, circularly, a sense of secondary control... that is, a feeling of fitting in with the environment. However, the authors also intended to link the motivation for secondary control closely to the motivation for primary control, stating explicitly that “we conceive of control as a two-process rather than a one-process construct” (Rothbaum et al., 1982, p. 8) and that “often there is vacillation between the two processes” (p. 8). In

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1 Since their article was written, other researchers have distinguished between perceived control and actual control behaviors, as we describe later in this article.
sum, it is somewhat difficult to interpret Rothbaum et al.'s overall message about the motive of secondary control. At times it seems clear that secondary control serves a “powerful motivation to fit into the environment.” At other times, it is clear that secondary control serves an overall motive to feel “in control,” albeit a feeling of control that has been expanded to include two processes.

Secondary Control Interacts With Primary Control

A third purpose of Rothbaum et al.'s (1982) original article was to speculate about the relationship between primary and secondary control. The construct names were purposefully chosen to clarify differences in the agent of control relative to the self.

“If the self is the most powerful agent, then control is primary; if more powerful agents are acknowledged (e.g., a task that one’s severely limited ability makes insurmountable, chance, or a powerful other person), the self’s control is secondary” (Rothbaum et al., p. 8). The names also convey their temporal sequencing. Rothbaum et al. (1982) argued that secondary control is most often used after efforts to exert direct control (primary control) have been ineffective: “Secondary control is most likely to occur after attempts at primary control have failed” (p. 8). Later researchers sometimes extended this idea, stating that secondary control may be functionally secondary to primary control (Heckhausen & Schulz, 1998). The temporal and functional primacy of primary control is a controversial aspect of the research on secondary control.

The Scope of Empirical Research: Domains and Dimensions

To evaluate the claims in the original Rothbaum et al. (1982) article, we rely on studies that specifically cite secondary control as their main focus. Many of these studies are summarized in Table 1, which summarizes key variables included in secondary control studies. (See the note to Table 1 for the criteria we used for including the studies.)

Secondary Control Studied as a Disposition or a Coping Strategy

Psychological research on secondary control usually fits into one of two subdisciplines. The original articles (Rothbaum et al., 1982; Weisz et al., 1984) described strategies that individuals use to interact with their environment. This approach fits best into the area of personality psychology. That is, one branch of secondary control research attempts to measure individual differences in secondary control (usually with self-report measures) and then to document levels of primary and secondary control in different populations (e.g., Essau & Trommsdorff, 1996; Lam & Zane, 2004; Morling & Fiske, 1999; Y. Peng, 1993; Trommsdorff & Friedlmeyer, 1993). This research often shows that people from different cultures, at different ages, and of different genders rely on secondary control to varying degrees.

The other and more prevalent branch of secondary control research focuses on how secondary control may help people cope with illness, stress, loss, or misfortune. This approach fits best into the applied subdisciplines of health or clinical psychology. It addresses the question, “Do people who use secondary control coping techniques adjust better to negative life events?” (e.g., Affleck, Tennen, & Gershman, 1985; Band & Weisz, 1990; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; Heckhausen, Wrosch, & Fleeson, 2001; Mendola, Tennen, Affleck, McCann, & Fitzgerald, 1990; Rudolph, Dennig, & Weisz, 1995; Skinner, Edge, Altman, & Sherwood, 2003; Thompson, Collins, Newcomb, & Hunt, 1996; Thompson, Nanni, & Levine, 1994; Thompson et al., 1998; Thubler & Weisz, 1997b). Coping researchers commonly frame their work in terms of different taxonomies of coping. There are literally hundreds of taxonomies of “ways of coping” (Skinner et al., 2003). However, one common taxonomy dovetails with secondary control research; it specifies the categories of active coping, accommodative coping, and passive coping (Walker, Smith, Garber, & Van Slyke, 1997). These categories have also been labeled primary control coping, secondary control coping, and relinquished coping, or as problem-focused coping, emotion-focused coping, and relinquished coping. (Brandstätter & Renner, 1992; Connor-Smith et al., 2000; Greve & Strobl, 2004; Thubler & Weisz, 1997a, 1997b). It seems significant that several researchers have developed such similar taxonomies including active, accommodative, and passive coping. As we review the research on secondary control, we include studies that measure accommodative coping, because this construct is commonly lumped together with secondary control behaviors.

In addition to these two branches, another prominent line of secondary control research approaches the challenges of aging and fits into both categories. Here, dispositional measures of secondary control and cross-sectional designs test the extent to which people use secondary control from middle to old age (e.g., Chipperfield, Perry, & Menec, 1999; Heckhausen, 1997). This approach fits into health psychology because people may face the limitations of advancing age in ways similar to how they may approach an acute stressor. However, the dispositional measures used in this research more closely resemble those of traditional personality research. A comprehensive review of this literature demands that we focus on both the personality and the coping lines of research on secondary control.

Identifying the Motive of Secondary Control as Control Versus Fit

An important dimension along which research can be classified involves the mechanism by which secondary control works to help the individual. Some researchers interpret the construct in such a way that secondary control is an alternative pathway to traditional control (e.g., efficacy, competence for effective action, or power). Other researchers interpret the construct such that secondary control is about fitting in, going with the flow, and harmonizing with the environment. These two mechanisms can both be traced to differently weighted interpretations of Rothbaum et al.'s (1982) original paper, which equivocated about whether secondary control is an act of control or an act of fit.

Major lines of research that emphasize that secondary control leads to perceived control include Heckhausen and her colleagues' work on optimizing control across the life span (1997; Heckhausen & Schulz, 1995, 1999) and Thompson and her colleagues' work on control during stress (e.g., Thompson et al., 1994, 1996). Secondary control’s ability to foster control is mentioned in several
paraphrased definitions of secondary control outlined in Table 1 (e.g., Burton & Sistler, 1996; Grootenhuis & Last, 1997; Halliday & Graham, 2000; Marriage & Cummins, 2004; Trommsdorff & Essau, 1998; Trommsdorff & Friedlmeier, 1993). Thus, a number of psychologists have accepted the claim that secondary control is about perceived control.

In contrast, other major lines of research that seem to emphasize the fit mechanism include Weisz and his colleagues’ work on how children cope with stress (e.g., Band & Weisz, 1990; Weisz et al., 1994) and Connor-Smith et al.’s (2000) research on adolescents’ responses to stress. Table 1 contains several paraphrased definitions of secondary control in which fitting in with the environment is mentioned (e.g., Band, 1990; Band & Weisz, 1988; Chipperfield et al., 1999; Connor-Smith & Compas, 2004; Langrock, Compas, Keller, Merchant, & Copeland, 2002; McCarty et al., 1999; McQuillen, Licht, & Licht, 2003; Morling & Fiske, 1999; Seginer, Trommsdorff, & Essau, 1993; Thurber & Weisz, 1997a). These psychologists emphasize the mechanism of fit in their work on secondary control.

Identifying these two distinct camps in the secondary control research is an important discovery, because for the most part, researchers do not consciously place themselves on this continuum, yet this dimension shapes significant operational and conceptual decisions that researchers make.

In the next two sections, we explain how we have defined secondary control and outline our view that secondary control may most parsimoniously be conceived as fulfilling the motive for fit.

**Defining Secondary Control as Acceptance and Adjustment**

Researchers who study secondary control typically begin with a conceptual definition of the construct that paraphrases the definition given in Rothbaum et al.’s (1982) original article. Table 1 (column 2) presents the conceptual definitions from a systematic sample of secondary control research. In this collection of definitions, we noticed that most of them imply two related activities. One activity is the process of adjusting, adapting, or changing the self. The other activity is the process of accepting the existing environment. In Table 1 (column 3), we indicated whether each study’s conceptual definition emphasizes adjusting the self, accepting the situation, or both. Indeed, a glance down column 3 reveals that the vast majority of researchers’ conceptual definitions incorporate this implicit, dual identity. To our knowledge, this dual identity has not been noted before in the secondary control literature. Further, interestingly, most researchers suggest a dual identity in their conceptual definitions regardless of whether they focus on fit or control in their theorizing.

Because we wanted to propose a definition of secondary control that is based on a meaningful consensus of past research, it was important that the definition explicitly capture both of these distinct aspects. Thus the conceptual definition of secondary control we propose is the following: *People exert secondary control when they adjust some aspect of the self and accept circumstances as they are.* Our definition reflects a consensus of conceptual definitions from past researchers; however, by explicitly specifying both processes, it should be more helpful in guiding operational definitions.

Despite the fact that our conceptual definition, like many of the definitions in Table 1, includes two implied components (adjusting the self and accepting one’s circumstances), researchers have usually operationalized the construct in a way that measures only one aspect. In Table 1, column 4, we list the ways that each study operationalized secondary control, and in column 5 we have rated whether the operationalization emphasizes adjustment of the self, acceptance of the situation, or both. According to our ratings, only a few operational definitions incorporate both components. For example, many researchers have operationalized secondary control in ways that focus only on adjusting the self, such as “think happy thoughts” (Marriage & Cummins, 2004) and “expecting less of oneself” (Chipperfield et al., 1999). Others have operationalized it in terms of acceptance, for example, “How much do you accept . . . the danger you will face?” (Halliday & Graham, 2000) and, “How much do you feel OK about [a stressor] because you just accept it and don’t try to change it?” (Thompson et al., 1996). However, we believe that including both aspects is the only way to capture the spirit of the original, complex construct. Including both aspects also helps to more clearly separate secondary control from related constructs, such as resignation, cognitive restructuring, or emotion regulation, which might arguably include one without the other.

**Secondary Control Is More Parsimoniously About Fit**

To appreciate why we believe the definition of secondary control requires both adjustment and acceptance, it is important that we specify where we stand on the issue of what might motivate people to engage in secondary control. Research on secondary control spans a spectrum, with some researchers emphasizing control and others emphasizing fit between self and circumstances. In our own theorizing of secondary control, we have ultimately chosen not to emphasize the possibility that secondary control could promote or maintain perceived control (i.e., a person’s subjective perception that he or she has access to means to influence outcomes; Skinner, 1996). One major reason for our decision is that there is very mixed evidence that secondary control behaviors result in perceived control. Only a few researchers have empirically tested the idea that engaging in secondary control provides some sense of control (we review these studies later in the article). Moreover, those who have tested this idea have only occasionally supported the concept that secondary control correlates with efficacy, power, or competence (Skinner, 1996). In the present article, we suggest that although secondary control has clear benefits for the individual, we do not see clear evidence that the mechanism for those benefits is a heightened sense of control. It does seem to make sense that one of the beneficial outcomes of secondary control might be a lack of helplessness and despair, but this does not seem to be the same as a sense of control over a situation.

A second reason for our emphasis on fit is parsimony. Even authors who emphasize the control aspect of secondary control seem to suggest that this control is actually the result of fit between self and environment. For example, Thompson et al. (1996) wrote, “Secondary control involves deriving a sense of control through the ability to accept or adjust to existing realities” (p. 1307). Fit might mediate the relationship between secondary control and
Table 1
A Summary of How Researchers Paraphrase the Definition of Secondary Control in the Original Article (Rothbaum, Weisz, & Snyder, 1982) and How the Researchers Have Operationalized the Secondary Control Construct

<table>
<thead>
<tr>
<th>Citation and sample</th>
<th>How Secondary Control was paraphrased from the original Rothbaum et al. (1982) citation</th>
<th>Emphasis of the paraphrased definition of secondary control</th>
<th>Secondary control, operationalized</th>
<th>Emphasis of the operationalized variable</th>
<th>Key secondary control outcomes</th>
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<tbody>
<tr>
<td>Affleck et al. (1985) Parents of high-risk infants</td>
<td>“Accommodations of the self to the environment” (p. 369)</td>
<td>Both acceptance and adjustment</td>
<td>1. Benefit finding, e.g., closer family relationships 2. Causal search, e.g., asking “why me?”</td>
<td>Adjustment of self</td>
<td>SC associated with more positive mood, less thought intrusion, and less avoidance</td>
</tr>
<tr>
<td>Bailis et al. (2005) Older adults</td>
<td>“A collection of mental strategies by which the individual may attempt to transcend or adapt to such threatening circumstances” (p. 393)</td>
<td>Both acceptance and adjustment</td>
<td>Downward social comparisons in five domains, e.g., “When it comes to your physical health, how would you compare yourself to others your age?”</td>
<td>Adjustment of self</td>
<td>SC associated with lower hospitalization and mortality rates among adults low in primary control</td>
</tr>
<tr>
<td>Band (1990) Children with diabetes</td>
<td>“Coping aimed at maximizing one’s goodness-of-fit with conditions or events as they are” (p. 28)</td>
<td>Both acceptance and adjustment</td>
<td>Coded coping responses as PC or SC on a 5-point continuum. Examples of SC: “sticking to your diet so you feel good about yourself”; “telling yourself it’s good to get your shots over with so you will not worry until the next time”; “talking to your parents so that you will feel good about yourself just as you are”</td>
<td>Adjustment of self</td>
<td>PC children were better adjusted than SC children, formal operational children were higher on SC</td>
</tr>
<tr>
<td>Band and Weisz (1988) Children and everyday stress</td>
<td>“Coping aimed at maximizing one’s goodness of fit with conditions as they are” (p. 247)</td>
<td>Acceptance</td>
<td>Coded coping responses, e.g., “understanding that his [or her] mother..[had a] hard day, with the goal of feeling less upset”</td>
<td>Adjustment of self</td>
<td>SC responses increased with age; SC use depended on the type of stressor</td>
</tr>
<tr>
<td>Band and Weisz (1990) Children with diabetes</td>
<td>“Coping aimed at influencing the personal psychological impact of objective conditions or events as they are” (p. 151)</td>
<td>Both acceptance and adjustment</td>
<td>Coded open-ended coping responses on a single 5-point SC to PC continuum. Example of SC: “telling myself I can still live a full life”</td>
<td>Adjustment of self</td>
<td>Formal operational children benefit more from PC than SC</td>
</tr>
<tr>
<td>Brandstädter and Renner (1990) German adults</td>
<td>Not paraphrased</td>
<td>N/A</td>
<td>Flexible goal adjustment items: “In general, I am not upset very long about an opportunity passed up”; “I can adapt quite easily to changes in a situation”; “I usually recognize quite easily my own limitations”</td>
<td>Adjustment of self</td>
<td>Flexible goal adjustment associated with less depression; rated higher in older adults than in middle age</td>
</tr>
<tr>
<td>Burton and Sistler (1996) Spousal caregivers</td>
<td>“An individual attempts to retain control by changing something about his or her own cognitions or emotions in order to adapt to the caretaking situation” (p. 422)</td>
<td>Both acceptance and adjustment</td>
<td>A single 5-point SC to PC continuum. Example of SC: “he does not allow himself to feel bitter”</td>
<td>Adjustment of self</td>
<td>Most caregivers integrated the two kinds of control</td>
</tr>
<tr>
<td>Chipperfield et al. (1999) Aging adults</td>
<td>“Involves restructuring the inner self, to achieve a ‘goodness of fit’ with objective circumstances” (p. 517)</td>
<td>Both acceptance and adjustment</td>
<td>Strategies such as “expecting less of oneself”; “accepting personal limitations”</td>
<td>Both acceptance and adjustment</td>
<td>SC was associated with better outcomes only for the “oldest-old”</td>
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(table continues)
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<td>Connor-Smith and Compas (2004) College students</td>
<td>“Efforts to adapt to current conditions through strategies such as distraction, acceptance, and positive thinking” (p. 348)</td>
<td>Both acceptance and adjustment</td>
<td>RSQ Secondary Control Coping scale (see Connor-Smith et al., 2000)</td>
<td>Both acceptance and adjustment</td>
<td>SC (and PC) coping buffered the connection between stress reactivity and health status; SC buffered the connection between arousal and internalizing problems</td>
</tr>
<tr>
<td>Connor-Smith et al. (2000) Adolescents</td>
<td>“Focused on adaptation to the problem. . . [examples include] acceptance and cognitive restructuring” (p. 977)</td>
<td>Both acceptance and adjustment</td>
<td>RSQ items: “I tell myself everything will be all right”; “I realize that I just have to live with things the way they are”</td>
<td>Both: Some items, acceptance; other items adjustment of self</td>
<td>SC coping factored as a form of “engagement coping”</td>
</tr>
<tr>
<td>Flammer et al. (1995) Japanese and Swiss adolescents</td>
<td>“A strategy consisting of changing or adapting one’s mind. . . control over one’s subjective states (aspirations, perceptions, and interpretations) in order to make them fit with the actual states of the extra-subjective world” (p. 278)</td>
<td>Both acceptance and adjustment</td>
<td>Response options to failed primary control, e.g., to a parental curfew. “In a way my parents are right, because I need enough rest in order to be fit for school”; to a lack of friends: “I would concentrate on things which are nicer to do by myself. In any case, I would have the advantage of being independent.”</td>
<td>Adjustment of self</td>
<td>SC was not associated with positive or negative outcomes; Japanese reported less primary control than Swiss, where Japanese and Swiss were equal on SC</td>
</tr>
<tr>
<td>Grootenhuis and Last (1997) Dutch parents of children with cancer</td>
<td>“Attempts of people to gain control by bringing themselves into line with environmental forces” (p. 116)</td>
<td>Both acceptance and adjustment</td>
<td>Scale items (see Grootenhuis et al., 1996)</td>
<td>Adjustment of self</td>
<td>Some subscales associated with better adjustment</td>
</tr>
<tr>
<td>Grootenhuis et al. (1996) Dutch parents of children with cancer</td>
<td>“Attempts of people to gain control. . . by bringing themselves into line with environmental forces” (p. 92)</td>
<td>Both acceptance and adjustment</td>
<td>Items such as “I consider the future of my child to be on the bright side” “The best physicians you can have are working at the hospital”; “If I strongly believe that the illness won’t come back, it won’t.”</td>
<td>Adjustment of self</td>
<td>Scale based on four SC subtypes was reliable and showed a four-factor structure</td>
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<tr>
<td>Halliday and Graham (2000) Juvenile offenders</td>
<td>“The sense of control derived from accepting or adjusting to existing realities” (p. 548)</td>
<td>Both acceptance and adjustment</td>
<td>Items, e.g., “how much do you accept and how much do you try to change how much danger you will face”</td>
<td>Acceptance</td>
<td>SC associated with maladjustment for all psychological and behavioral outcomes</td>
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<tr>
<td>Heckhausen (1997) Middle and older age German adults</td>
<td>“Targets the internal world of the individual in efforts to ‘fit in with the world’” (p. 176)</td>
<td>Both acceptance and adjustment</td>
<td>Flexible goal adjustment scale items, e.g., “Even in great misfortune I often find meaning,” (see Brandstädter &amp; Renner, 1990)</td>
<td>Adjustment of self</td>
<td>Flexible goal adjustment increased with age</td>
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<td>Heckhausen and Tomasik (2002) German adolescents</td>
<td>Not paraphrased</td>
<td>N/A</td>
<td>Relative ratings of “dream job” and “job I am interested in”</td>
<td>Adjustment of self</td>
<td>Realistic goals increased as apprenticeship deadlines approached</td>
</tr>
<tr>
<td>Heckhausen et al. (2001) Women before and after childbearing age</td>
<td>‘Individuals’ efforts to influence their own motivation, emotion, and mental representation” (p. 400)</td>
<td>Adjustment of self</td>
<td>Salience of baby-relevant information; ratings of childbearing goals</td>
<td>Adjustment of self</td>
<td>Baby-relevant goals and attention were higher among “urgent” developmental group</td>
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<td>Jaser et al. (2005) Adults with depression and their adolescent children</td>
<td>Not paraphrased</td>
<td>N/A</td>
<td>Parent and self ratings of RSQ items (see Connor-Smith et al., 2000).</td>
<td>Both acceptance and adjustment</td>
<td>SC coping, self-rated by adolescents, associated with less anxiety, depression, and aggression</td>
</tr>
<tr>
<td>Krantz (1995) People with disabilities</td>
<td>“The accommodation to a reality that cannot be changed given current medical capabilities” (p. 230)</td>
<td>Both acceptance and adjustment</td>
<td>Qualitative research with three levels of SC possible, e.g., positive consequences of disability; downward social comparisons, priorities in living</td>
<td>Adjustment of self</td>
<td>82% of interviewees reported SC use and usually discussed it positively</td>
</tr>
<tr>
<td>Lacković-Grgin et al. (2001) Adults ages 19 to 64</td>
<td>“The rescaling of goals and aspirations in terms of their adjustment to the new circumstances... It directs action towards possible goals and inhibits action towards unattainable goals” (p.50)</td>
<td>Adjustment of self</td>
<td>Scale items such as “I do something less important”; “I do not strive for what I cannot achieve”; “I alter the order of what is important to me”</td>
<td>Adjustment of self</td>
<td>SC increased with age; SC not correlated with PC</td>
</tr>
<tr>
<td>Lam and Zane (2004) Asian and Caucasian American students</td>
<td>“Changing the individual’s feelings and thoughts to adjust to the objective environment” (p. 447)</td>
<td>Both acceptance and adjustment</td>
<td>PSCQ items (see Trommsdorff &amp; Essau, 1998)</td>
<td>Both acceptance and adjustment</td>
<td>Asian Americans higher on SC and lower on PC than Caucasian Americans; interdependent self-concept mediated this cultural difference</td>
</tr>
<tr>
<td>Langrock et al. (2002) Children of depressed parents</td>
<td>“Efforts to fit in with or adapt to the situation by regulating attention and cognition” (p. 313)</td>
<td>Both acceptance and adjustment</td>
<td>Parent ratings of RSQ items (see Connor-Smith et al., 2000)</td>
<td>Both: Some items, acceptance; other items adjustment of self</td>
<td>SC coping associated with less distress and less aggression</td>
</tr>
<tr>
<td>Marriage and Cummins (2004) Children ages 5–12 years</td>
<td>“Reflects internal control of the self in situations where primary control either is not, or cannot, be exercised” (p. 109)</td>
<td>Adjustment of self</td>
<td>Coding of responses to scenarios, e.g., “just ignore her”; “think of happy thoughts”; “try not to think about it”</td>
<td>Adjustment of self</td>
<td>Children at age 5 could apply SC, but older children did more SC and favored SC over PC; SC strategies not related to self-esteem</td>
</tr>
<tr>
<td>McCarty et al. (1999) Thai and American youths</td>
<td>“Adjusting oneself to fit existing conditions” (p. 810)</td>
<td>Both acceptance and adjustment</td>
<td>Coping goals coded as SC, e.g., “to feel better”; “to feel less afraid”; “I make my mind ready, and it gives me a chance to relax”</td>
<td>Adjustment of self</td>
<td>Children from both cultures use more PC than SC, except during parental separation</td>
</tr>
<tr>
<td>McQuillen et al. (2003) People with Parkinson’s disease</td>
<td>“To redirect efforts toward changing oneself to achieve a better fit with the objective circumstances” (p. 505)</td>
<td>Both acceptance and adjustment</td>
<td>“How much control do you think you have over the stressful and negative feelings that may come with having Parkinson’s disease” and “How much control do you think you have over making changes in yourself... that will lead to a satisfying life, despite having Parkinson’s?”</td>
<td>Neither (item asks about perceived primacy control over engaging in secondary control)</td>
<td>SC predicted fewer participation restrictions, which in turn predicted less depression and greater subjective well-being</td>
</tr>
</tbody>
</table>
Table 1 (continued)

<table>
<thead>
<tr>
<th>Citation and sample</th>
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<th>Key secondary control outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mendola et al. (1990) Women with impaired infertility</td>
<td>&quot;The way in which people redefine such events so as to make them less aversive&quot; (p. 79)</td>
<td>Adjustment of self</td>
<td>Perceiving a benefit of a strengthened marriage</td>
<td>Adjustment of self</td>
<td>SC predicted lower global symptoms, separate from PC</td>
</tr>
<tr>
<td>Morling and Fiske (1999) Anglo and Hispanic college students and older adults</td>
<td>&quot;Internally directed, control-like behaviors such as reinterpreting events or aligning with luck&quot; (p. 381)</td>
<td>Adjustment of self</td>
<td>Harmony control items such as “I accept the present because I know it’s the will of some higher power”; “I feel secure knowing my friends will take care of me, should I need; “Most of my own needs are met when I meet other people’s needs”; “When I have a streak of bad luck, I wait for my luck to change”</td>
<td>Acceptance</td>
<td>SC higher in an Anglo sample and in women; SC correlated with interdependence and collectivism; SC predicted letting other people make choices</td>
</tr>
<tr>
<td>Morling et al. (2002) Japanese and American college students</td>
<td>&quot;Adjusting oneself to one’s circumstances&quot; (p. 311)</td>
<td>Both acceptance and adjustment</td>
<td>&quot;Think of situations in which you have adjusted yourself to [the] surrounding people, events, or objects&quot;</td>
<td>Both acceptance and adjustment</td>
<td>SC situations more frequent in Japan than in the United States; SC situations rated as low in efficacy but high in relatedness compared with PC situations</td>
</tr>
<tr>
<td>Morling et al. (2003) American and Japanese pregnant women</td>
<td>&quot;Adjust to or align themselves with aspects of an event&quot; (p. 1534)</td>
<td>Both acceptance and adjustment</td>
<td>&quot;I think I can accept [stressor] no matter how it turns out&quot;</td>
<td>Acceptance</td>
<td>Acceptance related to less distress over time, especially for Americans</td>
</tr>
<tr>
<td>Petito and Cummins (2000) Adolescents</td>
<td>&quot;Bringing the self into line with the world by accepting or adjusting to existing realities” (p. 198)</td>
<td>Both acceptance and adjustment</td>
<td>Coding of responses to failures, according to devaluation, optimism, downward comparison, cold comfort, bad luck, disengagement, refocus, personal gift</td>
<td>Adjustment of self</td>
<td>SC associated with well-being if SC is focused on re-attaining PC; SC did not change with age</td>
</tr>
<tr>
<td>Seginer et al. (1993) Malaysian, German, North American, and Israeli adolescents</td>
<td>&quot;Dwells on the assumption that the self-environment fit can be achieved not only by a powerful self changing the environment, but also by the self changing her/himself to fit in with existing reality’ (p. 344)</td>
<td>Both acceptance and adjustment</td>
<td>Study 1: See Trommsdorff and Essau (1998) Study 2: “Where I choose my future occupation I will consider my parents’ opinion”; “I work hard on my homework so that the teacher is happy with me”</td>
<td>Study 1: Some items, acceptance; other items adjustment of self Study 2: Adjustment of self</td>
<td>Study 1: Malaysians higher in SC than Western samples; Study 2: Druze higher than Jewish adolescents in SC</td>
</tr>
<tr>
<td>Shaw (1992) Nursing home residents</td>
<td>&quot;Include attributing the cause of an occurrence to chance, obtaining help from others or from a higher being (vicarious control), distancing from the problem, and searching for the meaning” (p. 553)</td>
<td>Adjustment of self</td>
<td>Six scale items measuring SC, not presented in the article</td>
<td></td>
<td>SC, (but not PC) was associated with coping effectiveness in the nursing home setting</td>
</tr>
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<td>Sorkin and Rook (2004) Adults age 65 and older</td>
<td>Not paraphrased</td>
<td>N/A</td>
<td>Items measuring compensatory SC (see Heckhausen et al., 1997) over interpersonal situations, e.g., “If a problem in one of your relationships cannot be resolved, you tell yourself that is not your fault”; “If a problem in one of your relationships cannot be resolved, you think about other people who have even worse problems”</td>
<td>Adjustment of self</td>
<td>Compensatory SC buffered the distress associated with negative social situations</td>
</tr>
<tr>
<td>Spector et al. (2004) Employees in China, Hong Kong, and the United States</td>
<td>“Changing the self to fit the external environment” (p. 41)</td>
<td>Both acceptance and adjustment</td>
<td>“I take pride in the accomplishments of my superiors at work”; “In doing my work, I sometimes consider failure in my work as payment for future success”</td>
<td>Adjustment of self</td>
<td>SC higher in China and the United States than in Hong Kong; SC incrementally predicted less job stress in a U.S. sample</td>
</tr>
<tr>
<td>Tennen et al. (1991) Women with impaired fertility</td>
<td>“Secondary control appraisals involve attempts to redefine a situation so as to reduce its threat” (p. 113)</td>
<td>Adjustment of self</td>
<td>1. Benefit finding of strengthened marriage 2. Attribution to medical causes</td>
<td>Adjustment of self</td>
<td>Benefit finding predicts fewer global symptoms; attribution to medical causes predicts more global symptoms</td>
</tr>
<tr>
<td>Thompson et al. (1996) HIV+ imprisoned men</td>
<td>“Deriving a sense of control through the ability to accept or adjust to existing realities” (p. 1307)</td>
<td>Both acceptance and adjustment</td>
<td>“How much do you feel OK about [stressor] because you just accept it and don’t try to change it?” (p. 1310)</td>
<td>Acceptance</td>
<td>SC associated with more distress at Time 1 but not at Time 2</td>
</tr>
<tr>
<td>Thompson et al. (1994) HIV+ men</td>
<td>Gaining control by accepting existing realities” (p. 540)</td>
<td>Acceptance</td>
<td>Ratings of “the extent to which they got a sense of control from accepting whatever happens relevant to the outcome” (p. 542)</td>
<td>Acceptance</td>
<td>SC associated with better adjustment; SC associated with less depression when PC is low</td>
</tr>
<tr>
<td>Thompson et al. (1998) Middle-aged adults</td>
<td>“Accepting or adjusting to one’s situation” (p. 587)</td>
<td>Both acceptance and adjustment</td>
<td>Scale items, e.g., “It is more important to me to accept the effects of aging than to try to fight it”; “I look forward to the benefits of being older”</td>
<td>Both: Some items, acceptance; other items adjustment of self</td>
<td>SC associated with less distress when PC levels are low</td>
</tr>
<tr>
<td>Thurber and Weisz (1997a) Boys at summer camp</td>
<td>“Adjusting oneself to fit objective conditions” (p. 182)</td>
<td>Both acceptance and adjustment</td>
<td>Coding of coping goals (e.g., forgetting about homesickness is a SC method); coding of methods based on the SC categories of cognitive adjustment, cognitive avoidance, and emotional adjustment</td>
<td>Adjustment of self</td>
<td>Boys used SC and PC methods when homesick; SC most common coping goal for homesickness</td>
</tr>
<tr>
<td>Thurber &amp; Weisz (1997b) Homesick children</td>
<td>“Adjusting oneself to fit objective conditions” (p. 509)</td>
<td>Both acceptance and adjustment</td>
<td>Scale items, e.g., “I tried to feel better by thinking about the good side of things”; “I just changed how I felt, and tried to be happy and have fun”</td>
<td>Adjustment of self</td>
<td>SC strategies very common, associated with better adjustment</td>
</tr>
<tr>
<td>Tremewan and Strongman (1991) Children ages 4–6 years</td>
<td>“Adapting to the objective circumstances” (p. 17)</td>
<td>Both acceptance and adjustment</td>
<td>Coding of children’s responses to fear, including social support, cognitive avoidance and emotional expression</td>
<td>Adjustment of self</td>
<td>SC associated with resolving fear in books; SC also common in response to fear in children and rated as “effective” by parents</td>
</tr>
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<tr>
<td>Trommsdorff &amp; Essau (1998) Japanese, Malaysian, North American, and German adolescents</td>
<td>“People attempt to gain control...by bringing the self into line with environmental demands,...Secondary control focuses on changing one’s goals and adapting to given circumstances” (p. 199)</td>
<td>Both acceptance and adjustment</td>
<td>PSCQ Scale items such as “I feel more comfortable going somewhere if I know what to expect”; “There is no point fighting against bad luck, instead, one has to be at peace with what fate brings”; “I interpret my hardship as a process of learning more about myself and other people”</td>
<td>Both: Some items, acceptance, other items adjustment of self</td>
<td>SC rated higher (and primary control lower) by adolescents from Malyasia and Japan compared with adolescents from Germany and North America</td>
</tr>
<tr>
<td>Trommsdorff and Friedlmeier (1993) Japanese and German mother–child dyads</td>
<td>“In secondary control, individuals attempt to align themselves with existing realities, leaving them unchanged but exerting control over their personal psychological impact” (p. 66)</td>
<td>Both acceptance and adjustment</td>
<td>During dyad task-centered interactions, ratings of mothers’ SC when “mother gave in to the child and considered the solution to the task less important”; ratings of child SC when “child readily accepted and took the mother’s suggestions”</td>
<td>Acceptance</td>
<td>Japanese mothers and children showed more SC than Germans during high-stress tasks</td>
</tr>
<tr>
<td>Wadsworth et al. (2005) Rural, low-income parent—adolescent dyads</td>
<td></td>
<td>Not paraphrased</td>
<td>RSQ Secondary Control Coping scale (see Connor-Smith et al., 2000)</td>
<td>Both acceptance and adjustment</td>
<td>SC coping was associated with lower levels of psychological symptoms in both parents and adolescents</td>
</tr>
<tr>
<td>Wadsworth et al. (2004) Navajo adolescents</td>
<td></td>
<td>Not paraphrased</td>
<td>RSQ Secondary Control Coping scale (see Connor-Smith et al., 2000)</td>
<td>Both acceptance and adjustment</td>
<td>RSQ factor structure validated in Native American sample; SC (and PC) coping associated with less depression</td>
</tr>
<tr>
<td>Wahl et al. (2004) Older adults with macular degeneration</td>
<td></td>
<td>Not paraphrased</td>
<td>OPS: (see Wahl et al., 2003)</td>
<td>Adjustment of self</td>
<td>Selective SC, but not compensatory SC (see Heckhausen &amp; Shultz, 1995), led to greater positive affect in adults with vision loss</td>
</tr>
<tr>
<td>Wahl et al. (2003) Older adults with macular degeneration</td>
<td></td>
<td>Not paraphrased</td>
<td>Selective and compensatory secondary control subscales from the Optimization in Primary and Secondary Control scale (OPS): “When I have decided on a goal, I always keep in mind its benefits” and “When something becomes too difficult, I can put it out of my thoughts”</td>
<td>Adjustment of self</td>
<td>Selective SC associated with better emotional outcomes</td>
</tr>
<tr>
<td>Weisz et al. (1994) Children with leukemia</td>
<td>“Efforts to enhance reward or reduce punishment by modifying oneself...so as to achieve goodness of fit with prevailing conditions” (p. 324)</td>
<td>Both acceptance and adjustment</td>
<td>1. Coded SC coping strategies, e.g., “trying to think on the good side” and 2. Coded SC coping goals, e.g., “not to worry so much”</td>
<td>Adjustment of self</td>
<td>SC strategies and goals both associated with better adjustment</td>
</tr>
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</table>
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<tr>
<td>Weisz et al. (1997)</td>
<td>“Involves enhancing reward or reducing punishment by adjusting oneself...in response to objective conditions...without altering them” (p. 704)</td>
<td>Both acceptance and adjustment</td>
<td>Taught an intervention, combined with PC, in which children learned to “modify depressogenic thoughts,” to “find a silver lining,” and “relaxation and imagery” (pp. 704–705)</td>
<td>Adjustment of self</td>
<td>SC and PC training; reduced depressive symptomatology (but the training did not separate SC from PC skills)</td>
</tr>
<tr>
<td>Wrosch and Heckhausen (1999) National sample of adults</td>
<td>“Is targeted toward the inner world and addresses individuals’ efforts to influence their own motivation, emotion, and mental representation” (p. 416)</td>
<td>Adjustment of self</td>
<td>Items measuring compensatory SC (Heckhausen et al., 1997) over partnership, e.g., “When partnership goals do not work out for me, I remind myself that in many ways I am better off than other people” and selective SC, e.g., “When I have decided on a partnership goal, I always keep in mind its benefits”</td>
<td>Adjustment of self</td>
<td>Separated people at late midlife showed greater compensatory SC than younger separated people; compensatory SC associated with positive affect in older separated people; younger separated people showed greater selective SC</td>
</tr>
<tr>
<td>Wrosch et al. (2000) National sample of adults</td>
<td>“Is targeted at the inner world and involves individuals’ efforts to influence their own motivation, emotion, and mental representation” (p. 388)</td>
<td>Adjustment of self</td>
<td>Two item sets to measure SC: 1. Positive reappraisal items, e.g., “I find I usually learn something meaningful from a difficult situation” 2. Lowering aspirations items e.g., “When my expectations are not being met, I lower my aspirations” (p. 399)</td>
<td>Adjustment of self</td>
<td>Positive reappraisal and lowering aspirations more common in older adults. Positive reappraisal associated with well-being in midlife and old age; lowering aspirations predicted worse well-being; positive reappraisal associated with mastery beliefs.</td>
</tr>
<tr>
<td>Wrosch et al. (2002) National sample of elderly adults</td>
<td>“Targets the self” (p. 340)</td>
<td>Adjustment of self</td>
<td>Selective SC over health items, e.g., “I often think about how important good health is to me”</td>
<td>Adjustment of self</td>
<td>SC combined with PC items for analysis; not possible to determine separate effects of SC in this study</td>
</tr>
</tbody>
</table>

Note. Studies were included in this table on the basis of three criteria: (a) The study was focused a priori on testing some hypothesis about secondary control (not just control in general), and (b) the study describes an original empirical study that operationalized secondary control. (Reviews and book chapters were not included because they may not be peer reviewed and because they might have resulted in redundancy with other entries in the table.) SC = secondary control; PC = primary control; N/A = not applicable. RSQ = Responses to Stress Questionnaire; PSCQ = Primary–Secondary Control Questionnaire.

*a Samples are from North America unless otherwise specified.*
some ultimate feeling of perceived control. That is, it may be possible that a sense of control comes out of secondary control actions further down a path of psychological effects. However, perceived control is not easily conceived as a direct outcome of secondary control actions, especially if perceived control is about influencing one’s outcomes. By not emphasizing the control aspect of secondary control, we have (temporarily, at least) taken out one, empirically unsupported, step from the model of how secondary control works in the individual. Emphasizing fit rather than control, as we do, will not be without detractors. However, it is in keeping with the spirit of the original article, with theoretical parsimony, and with empirical evidence to date.

In research, a few investigators have operationalized both aspects of this definition with a single item. For example, Morling, Kitayama, and Miyamoto (2002) defined secondary control as “situations in which you have adjusted yourself to [the] surrounding people, events, or objects.” This definition specifies adjustment directly, and acceptance indirectly, by specifying a target situation that one is adjusting to. (In contrast, operationalizations that focus only on “perceiving benefits” or “thinking about the good side of things” do not specify the situation or the target of adjustment). In addition, we claim that studies that use two questionnaire measures of secondary control, the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000) and the Primary–Secondary Control Questionnaire (PSCQ; Essau & Trommsdorff, 1996) also operationalize both aspects. In these two questionnaires, some items capture adjustment, whereas others capture acceptability. However, both kinds of items load together on, and are statistically combined into, secondary control factors, consistent with the idea that these two features are conceptually and empirically related.

Why Both Adjustment and Acceptance Are Necessary

We advocate using a two-part definition of secondary control because to separate the two components (adjusting the self and accepting the environment unchanged) would jeopardize the spirit of the secondary control construct as an adaptive, positive response, with the goal of fitting in with the environment. Measuring or manipulating acceptance of the environment alone is not enough because acceptance can be framed either as positive, active acceptance (which, we argue, implies self-adjustment) or as resigned acceptance (which, we argue, does not include self-adjustment). For instance, men with late-stage AIDS who agreed with statements such as “I try to accept what might happen” and “I prepare myself for the worst” died months earlier than men who did not approach their disease with “realistic acceptance” (Reed, Kemeny, Taylor, Wang, & Visscher, 1994). Another study similarly found that men with AIDS who reported that they accepted that the disease might eventually take their lives were more depressed (Griffin & Rabkin, 1998). In these two studies, acceptance was framed as acceptance of the negative aspects of the environment—a form of resignation. Table 1 offers more examples of research that has claimed to measure secondary control, but whose operationalizations mainly specify the acceptance aspect of this construct.

Secondary control occurs when people are negotiating fit between the self and the environment. If people accept the environment, they may do so in a negative (non-fit) way if they simply acknowledge the hopelessness of environmental contingencies but still wish for something different (e.g., “I accept that this disease will eventually take my life” and “I would rather stay alive”). In this case, there is no fit between one’s preferences (e.g., the desire to live) and the realities (e.g., the fact that death is inevitable). However, people can also accept environmental contingencies and wish for the same (e.g., I accept that this disease will eventually take my life” but “I am going to a better place, and I have lived a full life”). In this case, there is fit between one’s preferences (here, one’s view of the situation) and the realities (here, the fact that death is inevitable). This fit has been achieved not only by accepting the environment, but also by adjusting the self’s preferences or attitudes so that they are congruent with reality. Therefore, we argue that a true measure of secondary control requires assessing the self’s own adjustment in addition to asking people whether they accept some aspect of their situation.

Just as acceptance alone cannot stand in for secondary control, neither can adjustment be used by itself. For one, people may change some aspect of their perception of a situation (e.g., from “this situation is insurmountable” to “this situation is not so bad”) not with the goal of accepting and fitting in to the environment, but with the goal of changing it. That is, an adjustment of the self may enhance a person’s motivation or capacity to change the environment via primary control efforts. As an illustration, a student may downplay the negative impact of failing an exam in order to calm her nerves and perform better on the test, but the student adjusted how she feels about failure in order to prevent it, not to accept it. Thus, self-adjustment does not necessarily lead to acceptance. We suggest that a combination of self-adjustment and acceptance is the best way to capture secondary control as most people define it.

Our Definition Compared With Prominent Lines of Research

Weisz et al.’s Research

One prominent line of research on secondary control has emerged from the laboratory of John Weisz, one of the construct’s original authors. Weisz and his colleagues have studied how children and adolescents use primary and secondary control to cope with stressors such as diabetes (Band & Weisz, 1990), leukemia (Weisz et al., 1994), childhood depression (Weisz, Thurber, Sweeney, Proffitt, & LeGagnoux, 1997), homesickness (Thurber & Weisz, 1997a, 1997b), and peer conflict (McCarty et al., 1999). This research group emphasizes the role of fit in their secondary control discussions, defining secondary control as “coping aimed at maximizing one’s fit to current conditions” (Rudolph et al., 1995, online text p. 8). In fact, their emphasis on fit reinforces our own interpretation of the original Rothbaum et al. (1982) article. In addition, their research separates coping strategies from coping goals, typically coding or measuring them separately. For example, a child’s coping strategy may be classified as primary or secondary, and a child’s coping goal may be classified as primary or secondary (i.e., both strategies and goals are coded depending upon whether they are directed at modifying the environment or at adjusting the self). When they categorize a coping strategy as secondary, they seem to be deciding whether a child or adolescent has adjusted the self (e.g., “I try not to think about it”), which fits the first part of our definition. The kinds of coping goals they categorize as secondary (e.g., “[my goal is to] try to keep the...
showing the advantages to the combined definition we propose. Weisz and his colleagues' research is well-suited for here that the "secondary control" label should be applied only goals are coded separately, but this separation is seemingly ignored study their simultaneous effects. In research where strategies and goals are coded and reported separately, the findings are often consistent for both categories. For instance, children coping with leukemia who relied heavily on secondary coping methods or secondary coping goals were coping better than those who did not (Weisz et al., 1994). “Covert” (i.e., secondary) coping strategies also corresponded to secondary control goals for most childhood challenges (McCarty et al., 1999). In other research, strategies and goals are coded separately, but this separation is seemingly ignored in analysis (e.g., Thurber & Weisz, 1997a, 1997b). We agree that measuring strategies and goals is important; however, we suggest here that the “secondary control” label should be applied only when the strategy is to adjust the self and the goal is to accept the situation. Weisz and his colleagues’ research is well-suited for showing the advantages to the combined definition we propose.

**Thompson et al.’s Research**

Another line of research that seems conceptually compatible with our new secondary control definition comes from Thompson and her colleagues (Evered, Thompson, & Collins, 2001; Thompson, Collins, Newcomb, & Hunt, 1994; Thompson, Sobolew-Shubin, Galbraith, Schwankovsky, & Cruzen, 1993), who have tested how adults use secondary control when coping with life-threatening illness and other extremely low-control circumstances. The research of Thompson and her colleagues has focused on testing the assumptions of the original model, specifically whether secondary control is functionally or temporally secondary. Thompson and her colleagues’ research is notable in that they tend to use only acceptance as an operationalization of secondary control. Thompson et al. (1994) suggested that the original strategies of secondary control all have acceptance as their goal. As we have noted, acceptance alone does not seem sufficient to capture the true essence of the secondary control construct, because acceptance can be resigned (in which people do not experience self—environment fit) or active (in which people do experience such fit). However, Thompson et al. (1996) may have implicitly understood that acceptance should be specified as positive or negative, as they measured acceptance with the double-barreled item, “To what extent do you feel OK about [stressor] because you just accept it and don’t try to change it?” By adding “feel OK about…” to the stem in this question, Thompson et al. were probably attempting to measure a more positive form of acceptance. Although Thompson et al.’s measures probably capture the more active form of acceptance, this would be made clearer by adding a specific measure of self-adjustment to acceptance items.

**Research on the Responses to Stress Questionnaire**

A third major research area on secondary control has used the RSQ to measure responses to stress among adolescents. The five factors on the RSQ include primary control coping and secondary control coping (as well as involuntary disengagement, involuntary engagement, and disengagement coping; Connor-Smith et al., 2000). The secondary control coping factor included items that measured acceptance (“I realize that I just have to live with things the way they are”), distraction (“I keep my mind off [stressor] by exercising…the watching TV”), cognitive restructuring (“I think about all the things that I am learning from the situation, or something good that will come from it”), and positive thinking (“I tell myself that everything will be all right”). It is significant that these items, some of which capture adjustment and others of which capture acceptance, all load on the same secondary control factor. Thus, the research of Connor-Smith and colleagues is conceptually and operationally in sync with the new, fit-focused definition we propose.

**Rothbaum et al.’s Original Four Subtypes of Secondary Control**

A major feature of the introductory paper on secondary control was the presentation of a taxonomy of four types of secondary control (predictive control, illusory control, vicarious control, and interpretive control). Many researchers who took up the construct ignored this taxonomy; others developed measures that were inspired or explicitly based on all four categories (e.g., Grotenhuis, Last, Graaf-Nijkerk, & Van Der Wel, 1996; Morling & Fiske, 1999; Thompson, et al., 1998; Trommardsorf & Essau, 1998), and still others focused on only one or two of the original four categories (e.g., Affleck, Allen, Tennen, McGrade, & Ratzan, 1985; Cicirelli, 1987; Kernis & Grannemann, 1986; Tennen, Affleck, & Mendola, 1991).

When considered separately, each of the four subtypes fulfills only one aspect of our proposed definition (either acceptance or adjustment). Should researchers choose to use these four subtypes when they pursue secondary control research, they may need to add specific wording to fill in the “missing” half of secondary control. *Predictive secondary control* was introduced as “the ability to predict aversive events to avoid disappointment” (p. 13). This form of secondary control is similar to lowering one’s aspirations and, as such, seems to only fit with the self-adjustment aspect of our definition; researchers might specify that this prediction is in the service of acceptance rather than change. People who use *illusory secondary control* may believe they are lucky, or that chance is on their side. Aligning oneself with chance seems to be a trait where one adjusts the self, but researchers should specify that the alignment helps one accept, not change, outcomes. As for *vicarious secondary control*, the authors stated, “by aligning themselves with more powerful others, individuals can share in their victories and in their accomplishments—in short, in their control” (Rothbaum et al., 1982, p. 20). Whereas one might view an increasing identification with powerful others as a form of adjusting the self, it is more difficult to see how this identification would act in the service of acceptance of a situation. Finally, *interpretive secondary control* involves a search for meaning and understanding, “an attempt to understand problems so as to derive meaning.
from them and to accept them” (Rothbaum et al., 1982, p. 12). The process of making sense of the world fits our first criterion, that secondary control should involve adjustment of the self. In addition, to the extent that interpretive secondary control leads an individual to accept his or her circumstances without changing them, it also fits our second criterion, that secondary control should involve acceptance of the environment.2

**Appraisal and Coping**

The two parts of our definition, adjustment and acceptance, are not associated, respectively, with the appraisal and coping aspects of the process of coping with stress (Lazarus & Folkman, 1984). People may use acceptance as a coping strategy when they appraise a situation as unchangeable. Moreover, adjustment of the self can take the form of positive reappraisals of a situation. Adjustment of the self (e.g., “looking on the bright side”) and acceptance of a situation have been identified separately as aspects of coping. However, we point out that if researchers are specifically interested in the construct of secondary control, they should study the simultaneous action of acceptance and adjustment. Coping researchers may find it useful to study these aspects separately to investigate particular hypotheses; however, we wish to point out the benefits of studying them as a combination of activities that can be specifically identified as secondary control.

**Life Span Theory of Control**

One prominent line of research on secondary control is the life span theory of control (Heckhausen & Schulz, 1995, 1999), which specifies that the role of secondary control is to manage the self’s attentional and emotional resources in the service of primary control. In this work, secondary control is specifically and deliberately operationalized only as adjustment of the self. Heckhausen and Schulz, 1995, conceptualized this in the following manner: “We base the distinction between primary and secondary control principally on its target (i.e., self vs. external world)” (p. 285). It is defined this way because their theory proposes that people optimize their functioning across the life span by using a combination of primary and secondary control. According to Heckhausen and Schulz (1995), “secondary control serves as the pathway from loss of primary control back to primary control,” and it “also fosters primary control directly by managing its selectivity . . . enabling the organism to select and focus on goals that expand existing levels of primary control” (p. 286). Theirs is a control-focused definition of secondary control, in which the ultimate goal of secondary control is not to accept the environment, but, rather, to alter the environment via primary control, defining acceptance out of the secondary control construct. Indeed, to state that acceptance is part of their definition of secondary control would undermine their argument that the role of secondary control is to promote and restore motivation for primary control.

In Heckhausen and Schulz’s empirical work (Heckhausen & Schulz, 1998; Heckhausen, Wrosch, & Fleeson, 2001), secondary control is operationalized as two categories. First, selective secondary control (SSC) helps people stay focused on chosen primary control goals. An example of operationalization of SSC is the following: “Once I decide what I need to do to improve my health, I avoid things that could distract me from doing these things.” In two studies in which such statistics were reported, SSC items loaded together on factors with primary control items (e.g., Sorkin & Rook, 2004; Wrosch, Schulz, & Heckhausen, 2002). This correlation supports the authors’ claim that SSC supports primary control—it helps people stay focused, adjusting the self’s attention to serve primary control goals. However, it may also call into question the idea that SSC is conceptually separate from primary control.

The second form of secondary control in this model, compensatory secondary control (CSC) helps people regain motivation for primary control when faced with a challenge. Examples of operationalizations of CSC include the following: “When something becomes too difficult, I can put it out of my thoughts” and, “When things don’t work out for me, I tell myself it was just bad luck.” These items make theoretical sense, in accordance with their view that CSC compensates for lost primary control in order to motivate further primary control. One potential downside to these items is that they are double-barreled by being tied explicitly to failed primary control. People cannot, empirically, be high in both compensatory secondary and primary or perceived control. Consistent with their theory, these items also highlight that they are studying control-focused, not fit-focused, secondary control.

Because Heckhausen and colleagues define secondary control in a control-focused way as self-adjustment in the service of primary control, their research stands apart. Heckhausen (1997; Heckhausen & Schulz, 1999) claimed not to be measuring exactly the type of secondary control outlined by Rothbaum et al. (1982). Their claims about the nature of control-focused secondary control are best evaluated solely in the terms of their own theory—not fit-focused secondary control as we have articulated (in which secondary control serves a unique striving to fit into the environment). In later sections, we emphasize the point that future researchers need to be clear about which definition they are using (fit-focused or control-focused), because these may lead to different conclusions.

In the next section, we review research on secondary control, dividing the research into studies whose measures appear to fit under the two-part, fit-focused definition of secondary control and research that does not fit under this definition. While we assert that research that operationalizes both adjustment and acceptance provides the best test of original hypotheses, we also acknowledge that much research on secondary control has not operationalized the construct this way. This research, however, can potentially

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2 Notably, the process of (re)interpreting events to make meaning from them has been reviewed under the rubric of “meaning making” as a form of coping with stressful events (Park & Folkman, 1997). According to Park and Folkman, meaning making is an active, iterative process, in which people form, evaluate, compare, and change their attributions about a stressful event until its meaning is consistent with their global meaning system (in their model, such consistency leads to “acceptance”; p. 117). Thus, both our view of secondary control and Park and Folkman’s view of meaning making suggest that some aspect of the self is adjusting, that an event is accepted, and that people desire consistency. One difference is that Park and Folkman are mainly interested in how individuals strive for coherence and fit between global and situational meaning, both of which are cognitive constructs within the self. Secondary control researchers are mainly interested in how people strive for coherence and fit between the self and an external environment.
inform us about important trends in secondary control research and should not be ignored.

**Review of Research on Secondary Control**

Four claims about secondary control have received empirical attention over the years. Three of these are from Rothbaum et al. (1982): (a) there are benefits to engaging in secondary control, (b) engaging in secondary control may provide people with a sense of perceived control, and (c) secondary control is temporally secondary to primary control. One other claim about secondary control is not directly attributable to Rothbaum et al.; rather, it seems to have emerged from later researchers’ interpretations of the construct. This claim is that (d) secondary control serves a subordinate or “helper” function to primary control. In the context of functionality, we also review research on cultural differences in secondary control.

**Is Secondary Control Adaptive?**

The first of Rothbaum et al.’s (1982) most central themes was simply that there are benefits to engaging in secondary control. Numerous studies support that people who use secondary control in stressful situations are better off. In this section, we summarize studies that support the benefits of secondary control.

**Studies Consistent with the Fit-Focused Definition**

Studies that address the adaptability question usually fall under the coping domain. Among coping studies that draw on the new two-part, fit-focused definition of secondary control, all seem to support that secondary control is adaptive. Several recent studies have used the (RSQ) Connor-Smith et al., 2000), which contains separate factors for primary control coping, secondary control coping, and other coping strategies. The secondary control coping factor of the RSQ incorporates both adjustment and acceptance items. This factor is associated with less depression and better adjustment in each study that has reported it. These include studies of adolescents (Anglo and Native American) coping with various stressors, including coping with a parent with depression (Connor-Smith & Compas, 2004; Jaser et al., 2005; Langrock et al., 2002; Wadsworth, Rieckmann, Benson, & Compas, 2004) or poverty (Wadsworth, Raviv, Compas, & Connor-Smith, 2005). Two studies showed the benefits of using secondary control when primary control is low. In a study of aging adults, Chipperfield et al. (1999) showed that secondary control was associated with better outcomes for the “oldest old,” who presumably have limited opportunities for traditional primary control. Further, a sample of middle-aged adults demonstrated that secondary control was associated with less distress about the effects of aging, when primary control was low (Thompson et al., 1998).

**Studies Not Consistent with the Fit-Focused Definition**

Most studies of secondary control’s adaptiveness do not fit our proposed definition. Nevertheless, a number of studies have supported the adaptiveness of secondary control, showing that secondary control correlates with less depression (McQuillen et al., 2003); more positive mood (Affleck, Allen, Tennen, McGrade, & Ratzan, 1985), or less distress in response to a stressful situation (Band, 1990; Krantz, 1995; Mendola et al., 1990; Morling, Kitayama, & Miyamoto, 2003; Petito & Cummins, 2000; Shaw, 1992; Sorkin & Rook, 2004; Spector, Sanchez, Siu, Salgado, & Ma, 2004; Tennen, et al., 1991; Thompson et al., 1994; Thurber & Weisz, 1997b; Tremewan & Strongman, 1991; Wahl, Becker, Burmedi, & Schilling, 2004; Wahl, Schilling, Becker, & Burmedi, 2003; Weisz et al., 1994).

In addition to these studies showing that secondary control helps people feel better, two studies show mixed support (Band & Weisz, 1990; Grootenhuis & Last, 1997). Four studies showed no influence of secondary control on coping outcomes of adolescents (Flammer et al., 1995), coping of women in prison (Evered, Thompson, & Collins, 2001), self-esteem in children (Marriage & Cummins, 2004), and self-esteem of Anglo and Hispanic college students (Morling & Fiske, 1999).

Only two studies showed detrimental effects; in one, secondary control predicted future delinquency (Halliday & Graham, 2000), and in another, secondary control was associated with current distress among HIV-positive men in prison (Thompson et al., 1996). It is noteworthy that both studies showing detrimental effects of secondary control were conducted among men involved in the criminal justice system, and both of these studies also focused only on acceptance in their operationalization of secondary control and, as such, might illustrate the detrimental effects of resignation (see also Griffin & Rabin, 1998; Reed et al., 1994).

Overall, the picture that emerges is that among published studies, secondary control is usually associated with lower distress and better adjustment. For related conclusions on how children cope with stress, see Compas, Banez, Malcarne, and Worsham (1991) and Rudolph et al. (1995).

**Does Engaging in Secondary Control Provide a Sense of Control?**

Earlier we suggested that Rothbaum, Weisz, and Snyder (1982) were not always clear about whether secondary control behaviors serve a motivation to fit in with the environment or a motivation to feel “in control.” Subsequent researchers fall along a continuum of those that emphasize the ultimate control in secondary control (e.g., Heckhausen & Schulz, 1995) to those that emphasize the fit that it garners (e.g., Weisz et al., 1994). According to Rothbaum et al.’s (1982) article, the motivation to feel in control can be served by controlling the environment or by fitting in with the environment. In our theorizing, we have proposed that the immediate outcome of secondary control is fit, and we have only skeptically suggested that such fit might ultimately lead to a sense of control. In her review of the (primary) control literature, Skinner (1996) also questioned the idea that secondary control serves perceived control:

In the present context of clarifying the terminology surrounding constructs of control, it is considered unfortunate that [primary and secondary control] reactions have been labeled control. They are really potential actions and reactions to losses of subjective control. They are not objective or subjective control processes themselves. (p. 556, italics in original)

We found 13 empirical studies that report data on whether secondary control fosters perceived control. Some studies test the idea that secondary control is related to control perceptions, such
as efficacy, power, or beliefs about control such as internal locus of control. Other studies test the idea that secondary control is related to (self-reported) primary control behaviors. These two questions are different. As Schuz and Heckhausen (1999) pointed out, “In many cases, control-related behaviors do not necessarily involve and certainly are not captured by measures aimed at assessing beliefs about control” (p. 142). Perceived control and primary control actions are not the same. That said, perceived control is certainly one important motivational precursor for actual primary control, and it is often used as a meaningful proxy for actual primary control potentials in a situation (see Lang & Heckhausen, 2001; Wrosch & Heckhausen, 2002, for empirical examples). Further, perceived control shows psychological benefits, above and beyond actual control (e.g., Evered, 2004; Thompson, Sobolew-Shubin, Galbraith, Schwankovsky, & Cruzen, 1993). In sum, studies using measures of perceived control directly test the Rothbaum, Weisz and Snyder hypothesis that secondary control makes people feel in control. Studies using measures of actual primary control are less conclusive—as primary control actions are not exactly the same as perceived control. We review studies on both of these questions here.

**Studies Consistent With the Fit-Focused Definition**

Seven studies used fit-focused measures of secondary control. In the clearest test of the perceived control hypothesis (Morling et al., 2002), researchers collected descriptions of real-life experiences from American and Japanese college students. In some of the descriptions, the students reported examples of situations in which they influenced some situation (primary control). In other descriptions, the students reported examples of situations in which they had adjusted themselves to some specific situation (secondary control). In a second step of data collection, a different group of American and Japanese students was asked to review the descriptions and rate the extent to which each situation would make them feel “efficacious or powerful, able to do something.” Only the primary control situations, not the secondary control situations, were rated as efficacious.

In another study of perceived control, Thompson et al. (1998) reported a correlation of .38 between measures of perceived primary and secondary control over aging, but the two kinds of items were interspersed in the same questionnaire, so there may be self-report method artifacts.

Four recent studies report research on the secondary control and primary control coping factors of the RSQ. These studies focus on primary control behaviors. Primary and secondary control coping items load on different factors in the RSQ studies (Connor-Smith & Compas, 2004; Connor-Smith et al., 2000; Jaser et al., 2005; Langrock et al., 2002), supporting that secondary control and primary control behaviors are separate constructs. Furthermore, secondary control coping factor scores do not correlate with independent measures of active coping and planful coping, which are presumably related to primary control behaviors (Connor-Smith et al., 2000; in contrast, primary control coping factor scores did correlate with these measures). Although proportional secondary control coping and primary control coping factors were weakly correlated in one study ($r = .17; p < .001$; Connor-Smith et al., 2000) and the scales were actually moderately correlated in another ($r = .32; Jaser et al., 2005$), this overall pattern of associations suggests that secondary control and primary control are organized separately in a behavioral repertoire.

Lam and Zane (2004), using a version of the behaviorally oriented PSCQ (Seginer et al., 1993), reported a negative correlation between primary and secondary control ($r = - .39$).

In total, among studies that use the fit-focused definition and focused on perceived control, one study found no relationship between secondary control and perceived control, and one study found a moderate relationship. Four out of five studies focused on behavioral measures found a negative, weak, or no relationship between secondary control and traditional primary control.

**Studies Not Consistent With the Fit-Focused Definition**

Six other studies potentially reflect on the perceived control question as well. Self-report measures of assimilative and accommodative behavior-like processes (labeled tenacious goal pursuit and flexible goal adjustment) were orthogonal to each other, indicating that the more explicitly control-oriented behavior (assimilation) was completely separate from its secondary-control-like partner, accommodation (Brandtstädter & Renner, 1990). Further, the flexible goal adjustment scale (i.e., accommodation—a construct similar to fit-focused secondary control but whose operational definition focuses only on adjustment) was uncorrelated with a measure of internal perceived control (i.e., Levenson’s, 1973, IPC scales: internal, powerful others, and chance control). Tenacious goal pursuit, in contrast, was correlated moderately with all three IPC scales in expected directions. However, another measure of accommodation—devaluing impossible goals over time—buffered losses in perceived control in later life (reported in Brandstädter & Rothermund, 2002).

In another study, students’ responses to a reframed measure of secondary control called “harmony control,” which emphasized acceptance, were uncorrelated with Rotter’s locus of control scale, which measures perceptions of contingencies of environmental control (Morling & Fiske, 1999). In a more recent report, people living with Parkinson’s disease reported their “perceived internal secondary control” and their “perceived internal primary control”; the two were not correlated (McQuillen, et al., 2003; however, their measure of secondary control is unusual; see Table 1). Other studies report no correlation between measures of primary and secondary control behaviors (Lacković-Grin, Grin, Penezić, & Sorić, 2001). In one exception to this pattern, Spector et al. (2004) reported that their measure of secondary control was correlated with a measure of “internality” (perceived control) in samples from the United States and Hong Kong; there was no correlation in a sample from China.

In sum, two studies found no relationship between primary control behaviors and secondary control. Of the five studies that tested perceived control, three found that secondary control was uncorrelated with perceived control, one found a positive relationship, and one found different results in different national samples.

**Summary of Research on a Sense of Control**

One limitation to a review of this hypothesis is that in several cases, researchers collected relevant data but did not report the zero-order correlation between primary and secondary control because they were focused on other questions (such as the relative
If Not a Sense of Control, Then What?

If secondary control is not beneficial via a mechanism of perceived control, then what is the benefit of secondary control to the individual? Further, what do we lose by separating secondary control from traditional constructs of control?

Secondary control clearly fosters wellness, even if it does not directly foster mastery and efficacy. As we have reviewed, secondary control almost always benefits the individual, as measured by coping adjustment, depression, distress, and other measures. However, perceived control and mastery are only one aspect of human wellness, according to some prominent theories (see, e.g., Epstein, 2003; Ryan & Deci, 2002; Ryff & Singer, 2000). Secondary control also appears to signal a lack of helplessness and despair, even if it does not demonstrably result in perceived control (Thompson et al., 1996).

If fit is the motivation, then the immediate psychological outcome of secondary control may be a subjective sense of coherence, cognitive satisfaction, or serenity. These subjective states are rarely measured in psychological studies. Though probably not as satisfying as experiences of primary control (at least for individuals from the United States), they are undoubtedly positive emotional states and, as such, may prove to be the appropriate mediators between secondary control and an ultimate state of psychological well-being. Such states are consistent with Rothbaum et al.’s (1982) original claim that secondary control may lead to less extreme emotions than primary control. This view is further reinforced by the suggestion that people’s explanations of accommodative strategies “convey an impression of calmness and perhaps even wisdom, and of a positive attitude toward life, in general” (Brandstädter, 2002, oral presentation transcript).

Another possible outcome of secondary control might be a sense of closeness or interdependence with others. As we explain more completely in the next section, secondary control might be a key strategy for people when they are functioning in a relationship. If so, secondary control behavior should be associated with measures of interpersonal relatedness. Such measures might include interpersonal closeness, fondness, or the inclusion of the other in self (Aron, Aron, & Smollan, 1992). Indeed, Morling et al. (2002), who found that secondary control situations did not foster efficacy or power, reported that secondary control situations were associated with “feeling close” to others in a relationship.

Theoretically, when we separate secondary control from perceived control, we lose the tidy bundling of primary and secondary control under a common rubric of control. These two constructs are almost always studied together in research, so unbundling them seems to leave secondary control stranded without a meaningful comparison construct. Our response is to view primary and secondary control as two strategies that meet different human motives in response to everyday events or stressful challenges. This view is close to what many ways of coping taxonomies attempt to do (Skinner et al., 2003).

The Special Case of the Life Span Theory of Control

Before we leave this discussion, we separately report the perspective of Heckhausen and her colleagues’ (e.g., Heckhausen & Schulz, 1998, 1999) life span theory of control on this topic. This theory has a clear statement about the purpose of secondary control: to promote primary control striving. The theory explains how people use four primary and control-focused secondary control strategies to optimize their functioning, as objective opportunities for primary control increase or decrease at certain developmental points. According to the theory, a higher order process monitors the opportunities and limitations in the environment, guiding strategy selection to optimize functioning. The higher order optimizing function is successful to the extent that it promotes and maintains primary control across the life span (Heckhausen & Schulz, 1998).

In short, because control strategies are implemented at different times for different reasons, there is no reason to expect secondary control strategies to be correlated with primary control behavior. Instead, their model is more concerned with when and how control strategies are best implemented. For example, data from Heckhausen and her colleagues support that people tend to adjust their goals to suit their current developmental capacities (e.g., downgrading goals as they age, to fit the time constraints and limited resources of aging; Heckhausen, 1997; Heckhausen & Tomasik, 2002). Additionally, one study specifically demonstrated that adults who fail to disengage from impossible goals show more negative affect (Heckhausen et al., 2001). Another study in this paradigm showed that for adults low in primary control, downward social comparisons (a form of compensatory secondary control) predicted less hospitalization and mortality (Bailis, Chipperfield, & Perry, 2005); the authors did not test whether this relationship was mediated by perceived control.

It is not clear in this model whether control-focused secondary control should promote perceived control. One might well expect secondary control to be associated with perceived control because control focused secondary control strategies are supposed to help people maintain their motivations for primary control (see, e.g., Heckhausen & Schulz, 1998, Figure 2.1). But the research of Heckhausen and her colleagues usually has not tested this claim, because these researchers have been more interested in control behaviors than in perceived control (Schulz & Heckhausen, 1999; Wrosch, Heckhausen, & Lachman, 2000). Some research has demonstrated that the benefits of perceived control change across the life span, presumably because perceived control is adaptive only when primary control is actually possible (e.g., Wrosch & Heckhausen, 2002). Overall, however, this line of research establishes normative standards for when adults should exercise strategies of primary and (control-focused) secondary control and is not concerned with whether the strategies are mediated by perceived control.

Is Secondary Control Temporally Secondary?

A third claim of secondary control theory is that “secondary control is most likely to occur after attempts at primary control
have little support. This claim asserts temporal primacy for primary control, in which people try primary control first, resorting to secondary control only when primary control fails (e.g., people may alter their diet to try to change the course of an illness, but if a change in diet fails people might change their perspective on the disease and find benefits in it). Testing the temporal primacy assumption requires a longitudinal design in which both primary control and secondary control are measured repeatedly. To our knowledge, only three studies have reported appropriate data on this question; these studies did not happen to use our fit-focused definition of secondary control.

First, a sample of HIV-positive men in prison reported their perceptions of primary and secondary control at two intervals, 3 months apart (Thompson et al., 1996). The researchers expected to find that secondary control coping would increase if the inmates’ perceptions of primary control went down. They found that primary and secondary control levels remained stable. However, this study is inconclusive. Because primary control perceptions did not change, there was no need for secondary control to increase. Second, in a diary study (Tennen, Affleck, Armeli, & Carney, 2000), people living with rheumatoid arthritis reported their use of different coping techniques every day, specifically problem-focused coping (PFC) and emotion-focused coping (EFC; Lazarus & Folkman, 1984). The PFC and EFC constructs overlap with, but are distinct from, primary and secondary control. Still, the authors cited Rothbaum et al. (1982) to justify their hypothesis that people would use EFC more on a particular day if PFC had failed on the day before. The study found that if people’s pain increased from day to day (implying that PFC was not working), their use of EFC increased. This pattern does support a temporal sequence; unfortunately, the measures are not directly related to secondary and primary control constructs. Third, in a three-part longitudinal study of diabetics, Evered (2004) found that self-adjustment strategies increased and acceptance decreased over time, independent of changes in primary or perceived control.

These three studies make it difficult to conclude one way or the other whether an increase in secondary control temporally follows failed primary control. Two studies were unable to support this idea, and the other study did not use specific measures of primary and secondary control. There is simply not enough evidence at this time. Additionally, to test such relationships, researchers need fine-grained longitudinal data in order to catch the timing of control opportunities as they change and to measure corresponding shifts in control strategies. The daily diary method (Tennen, et al., 2000) is a step in this direction. However, even finer time intervals may be needed. If secondary control is activated in response to reduced perceived control, and greater use of secondary control results in subsequently greater perceived control, then these two processes cancel each other out in a one-time correlation, especially if the effect on perceived control is immediate (Dale Berger, personal communication, May, 2002). Given such methodological challenges, it is no wonder that the temporal primacy hypothesis has little support.

The Functionality of Primary and Secondary Control

We have already reviewed several studies that demonstrate clearly that secondary control can be adaptive. In this section, we will review theoretical and empirical perspectives on functional primacy of the two processes. Is primary control, relative to secondary control, functionally primary for all people? Rothbaum et al. (1982) never proclaimed that primary control was primary for all human functioning. However, the functional primacy issue has been debated (Gould, 1999; Heckhausen & Schulz, 1999; Ryan, 1998) and still remains an important question.

Two views of the relative functionality of primary and secondary control emerge from the literature, and these tend to follow from definitions of secondary control as fit-focused versus control-focused. One view takes the labels of these two constructs literally, and states that primary control is fundamentally, functionally primary and that secondary control serves a distinctly secondary function. This perspective makes most sense when researchers define functionality in terms of a single human motivation (i.e., control) and use a definition of secondary control that is control-focused. In the second view, secondary control is independently, primarily functional in its own right. This perspective makes sense in the context of multiple human motivations (including control, belonging, and consistency) and a definition of secondary control that is fit-focused.

The Single-Motive View of Functionality: Primary Control Is Primary, and Secondary Control Is Secondary

Two lines of research have theorized, or empirically investigated, the idea that primary control is primary. One, the primary/backup model (Thompson et al., 1998) states that during stress, primary control is the most important predictor of adjustment, but that secondary control will be apparent (and use of secondary control will be relatively higher) among people who perceive they have little or no primary control. (The model’s authors do not state that control is the only fundamental human motive; they merely focus on control because it plays a central role in stress and coping.) Several studies tested this model, and the results are mixed.

One study tested this model and is also consistent with our fit-focused definition of secondary control. In a sample of (mostly White) middle-aged adults who were coping with the appearance of their aging bodies, the primary/backup model received strong support (Thompson et al., 1998). Secondary control was associated with less distress among adults who perceived low primary control.

Seven studies tested this model but their definitions are not consistent with the fit-focused operationalization of secondary control. The primary/backup model received support in a sample of (mostly White) HIV-positive men (Thompson et al., 1994). A study by Shaw (1992) involving nursing home residents also provides support for the primary/backup model. Residents who perceived low primary control were more likely to use secondary control strategies and benefit from them. Another study (Bailis et al., 2005) showed that secondary control (operationalized as optimistic social comparisons) predicted lower rates of hospitalization and mortality in older adults and only among those low in primary control. However, four other studies show that people who perceived low primary control did not benefit from secondary control.

3 We acknowledge an anonymous reviewer for the elegant phrasing of this idea.
(Evered, et al., 2001; Morling et al., 2003; Ray, Jefferies, & Weir, 1997) or were worse off (Thompson et al., 1996).

In sum, support for the primacy/backup model has been mixed (four studies in favor, four against). One reason for this outcome may be related to the fact that among North Americans, perceiving primary control has very robust benefits (e.g., Averill, 1973; Heckhausen, 1997; Levenson, 1973; Strickland, 1989; Thompson, 1981; Thompson & Kyle, 2000). We refer again to Rothbaum et al.’s (1982) proposal that secondary control “is apt to be experienced as safer and to lead to less extreme highs and lows.” Logically, if secondary control cannot achieve the same level of personal satisfaction as engaging in primary control, then secondary control is unlikely to produce results that are as uniformly positive as primary control. However, as we outline in the next section, the primacy/backup model may have received mixed support because secondary control independently meets human motives besides the need to control.

A second theory in this category takes a much stronger stance about the relative functionality of primary and secondary control. As we have already extensively reviewed, in the life span theory of control (Heckhausen & Schulz, 1995, 1998) the role of secondary control is to support primary control strivings by focusing energy and by keeping a person’s motivation for primary control high after a control failure. Although they do not specifically test that secondary control benefits an individual via primary control, their research does show that secondary control is more likely to be used by, and be beneficial for, individuals when they anticipate uncontrollability (Heckhausen et al., 2001; Heckhausen & Tomasik, 2002).

Heckhausen and Schulz (1998) once briefly acknowledged that there are other fundamental human needs besides control (“control striving [is] one of probably very few fundamental motivating systems for human behavior,” p. 51). However, the authors’ language in other contexts (Heckhausen & Schulz, 1999) suggests that primary control striving is the most important human motive:

Our theory deals with the motivational system that regulates human behavior throughout the life course. . . . [Primary control], when compared to secondary control, is more important for the development and survival of the organism, is functionally more adaptive, and is more preferred or desired, all other things being equal. (p. 605)

In addition,

Primary control striving has evolved in phylogeny because it has adaptive value for survival and procreation. . . . There is no empirical evidence for the claim that in certain cultures primary control striving may be overridden by secondary control striving . . . it is this capacity of the control system that has made [primary control] a universally adaptive instrument of human beings across cultures and history. (p. 608)

If one believes that mastery of one’s environment is the most important human motivation, then this necessarily leads to the conclusion that secondary control, in which the environment is not manipulated, is less important. This view necessitates that secondary control striving is functional not in its own right, but as a “confederate” of primary control.

In addition, as we have pointed out, this theory’s operationalizations of secondary control are exclusively control focused, and do not include accepting the environment. Logically consistent with their definitions, their use of secondary control certainly is secondary to primary control. Therefore, we may conclude that control-focused secondary control truly is secondary in function to primary control. However, overall this view seems limited because it defines functionality in terms of only one human motivation (for control). In contrast, a fit-focused definition of secondary control incorporates a broader view of human motivation and functionality, as we explain next.

The Multiple Motive View of Functionality: Primary Control and Secondary Control Are Primary for Different Human Motives

In contrast to the view that primary control striving is the central focus of human action, many social, personality, and clinical psychologists have argued convincingly that human beings strive simultaneously to negotiate several fundamental human motives, of which control is only one. Epstein (e.g., Epstein, 2003) argued that humans strive for four motives: to avoid pain and seek pleasure, to feel in control, to enhance the self, and to relate to others. Fiske (2002) argued for five motives: belonging (which hierarchically organizes the others), understanding, control, esteem, and trust. Baumeister (2005) explored several candidates, including understanding, control, belonging, meaning, and self-esteem, among others. Ryan and Deci (2002) argued for three: autonomy, competence (i.e., control), and relatedness. Thus, dominant views in psychology argue for multiple motives. Besides control, the only other need that all of these lists include is a need for belonging. Indeed, despite the clear evolutionary benefits of controlling one’s environment, there are equally convincing arguments about the evolutionary benefits of belonging to a group and sustaining relationships with other people (see Baumeister & Leary, 1995; Stevens & Fiske, 1995).

Fit-focused secondary control involves adjusting the self and accepting situational circumstances, and one ubiquitous situational context in human life is relationships. In fact, fit-focused secondary control may be uniquely suited to sustaining close personal relationships, whereas primary control is not well-suited for this motivation. For one, an act of (primary) control that satisfies the individual needs of one member of a dyad may very likely prohibit the other member of the dyad from meeting his or her individual needs. In contrast, fit-focused secondary control might enable an individual to change aspects of the self in order to accept and respect the views of others. Although research is sparse, at least one study is consistent with this idea. American and Japanese students reported that secondary control situations (consistent with the fit-focused definition of secondary control) make them feel close to others (Morling et al., 2002).

In addition, some isolated research findings are consistent with the idea that primary control is less functional for mutually satisfying relationships. In a study in which researchers eavesdropped on conversations and later asked participants to complete a control questionnaire (reported in Burger, 1992), people high in a desire for (primary) control were more likely to direct the topic of a casual conversation and were more likely to interrupt a conversation. To the extent that people do not appreciate being directed and interrupted, this type of controlling behavior would be maladaptive for a dyad (see also Burger, 1989, and Thompson, Cheek, & Graham, 1988, for other perspectives on when primary control is
maladaptive). In addition, people high in desire for control report having fewer close friends and disclose less in conversations, perhaps because they do not like the unpredictability or need for compromise that are part of the average friendship (Burger, 1989, 1992). Direct primary control of the type usually studied potentially disrupts social harmony (Yamaguchi, 2001).

Primary control could serve a constructive role in the relationship domain. Baumeister and Leary (1995) indicate that the need to belong must be satisfied by two elements: frequent contact and intimate, empathetic caring. Primary control striving might help people regulate frequency of social contact. However, we are skeptical that primary control can legislate caring, mutuality, or compassion. Although more research on the topic is needed, it does not seem that people can control others into caring about them in a truly intimate way. Primary control may also help people manage their own behavior in relationships so they can control their individual outcomes (how they try to avoid distressing social situations, how they manage individual disappointment from stressful interactions; Sorkin & Rook, 2004). However, this is somewhat different from how people strive to fulfill the shared goals of a relationship.

Other theorists have also suggested that models of well-being that focus exclusively on control are limited. In a review of Heckhausen and Schulz’s model, Ryan (1998) reached a similar conclusion:

The concept of primary control does not seem all that well suited to explicating how individuals fulfill relatedness needs. One of the most noteworthy characteristics of humanity is people’s social, interdependent nature. . . . Often, individuals willingly give up control to others, and/or freely rely and depend on them. They do so not only to free up resources for primary control elsewhere, but because doing so often directly fulfills human needs. Engaging in secondary control within relationships is thus not merely compensatory but often a great treasure, psychologically. An individualistic perspective on control may miss this reflection of human tendencies to relatedness. (Ryan, 1998, p. 123)

Finally, in a culturally informed review, Yamaguchi (2001) outlined two alternative routes to psychological well-being (a sense of autonomy and a sense of harmonious adaptation), writing that “secondary control would be able to heighten one’s psychological well-being if the individual values harmony with the environment” (p. 238).

Caveat: Benefit beyond relatedness. Despite our lengthy discussion here, fit-focused secondary control is probably adaptive not just because it can enhance relatedness. Because secondary control can involve changing one’s perspective on adversity, it may also be adaptive because it enhances people’s sense of understanding and meaning in events (see Park & Folkman, 1997), which helps people to cope. Secondary control could also be uniquely suited for tolerating daily stressors in the course of normal life (see, e.g., Morling et al., 2003). Moreover, as we noted earlier, it may contribute to a sense of serenity and coherence. The evidence suggests that secondary control is adaptive; our reasoning suggests that it may be adaptive because it helps serve a number of basic human needs.

The debate on the functionality of secondary control highlights how crucial it is for researchers to consciously choose whether they are using a fit-focused or a control-focused definition of secondary control. We have presented two, rather incompatible views of the functionality of secondary control. When researchers focus on the human motive for control to the exclusion of other motives, then functionality (and secondary control as well) gets defined in a control-oriented way, and secondary control plays only a supporting role to primary control. However, if one accepts that human beings are multiply motivated and that secondary control is fit-focused rather than control-focused, then secondary control may be uniquely, functionally suited to sustaining trust and caring within relationships, in addition to fostering well-being in other ways. In this argument, both primary control and fit-focused secondary control have primary roles to play in maintaining well-being.

Cultural Influences on Secondary Control

Cross-cultural research on secondary control can also potentially inform the issue of functionality. Cultural differences in secondary control have frequently been hypothesized (Weisz et al., 1984) and studied. Here we review why one might expect cultural differences in secondary control and the evidence for such differences.

Although human ethnic populations differ in a myriad of ways, anthropologists and cultural psychologists acknowledge two overarching cultural patterns—independence and interdependence—that meaningfully categorize a great deal of cross-cultural variation (Greenfield, Keller, Fuligni, & Maynard, 2003; Lehman, Chiu, & Schaller, 2004; Markus & Kitayama, 1991; Nisbett, 2003). Many cultures (Asian cultures have been most frequently studied) foster an interdependent view of self, in which people develop unbounded self-concepts that flexibly adapt to a particular context (e.g., Cousins, 1989; Markus & Kitayama, 1991). In contrast, many other cultures (most notably, North American and Western European) foster an independent view of the self, in which people develop self-concepts that focus on individual goals, separation from others, and recognizing the self as a determinant of action. Some have suggested that the interdependent—independence dimension is too simplistic and dichotomous to capture individual personalities within specific cultures (e.g., Killen & Wainryb, 2000). However, the dimension holds up in a wide variety of research, perhaps because these ideas about the self do not reside in individual people; they are continually enabled by and constrained by cultural systems of meaning and social practices that “live” outside the individual (Markus & Kitayama, 2003).

Collective Forms of Primary Control

Although somewhat tangential to our focus here, one view of cultural influences on control is that primary control may be expressed differently in cultures that foster the interdependent self-concept. For one, indirect forms of primary control are hypothesized to achieve personal goals without disrupting social harmony (Yamaguchi, 2001). In addition, primary control may be enacted collectively. For example, African American and Native American women, both groups for whom interdependence is more normative, benefit at least as much from “communal mastery” (e.g., “Working together with people close to me, I can overcome most of the problems I have”) as from self mastery (Hobfoll, 2002). Communal mastery, or collective efficacy, can be described...
as primary control by a group of people sustained by social support (Bandura, 1997). Because it focuses on changing the environment, it is a form of primary control, enacted collectively (see Yamaguchi, 2001, for one review). However, collective efficacy does not seem to be a simple extension of primary control as usually studied (with the self as agent). Communal mastery was empirically separate from personal forms of control in two studies (Hobfoll, 2002). Moreover, because collective efficacy highlights relationships with close others, it is predicated on interdependence and social support. In order to achieve collective mastery, people must first be enmeshed in a network of supportive relationships (van Zomeren, Spears, Fischer, & Leach, 2004). We have argued that fit-focused secondary control may play a role in maintaining such relationships, and thus collective efficacy (or communal mastery) might be one very interesting arena in which primary and secondary control are both at high levels.

Interdependence and Secondary Control

In a culture that fosters an interdependent view of self, people may more often use fit-focused secondary control, adjusting their own preferences to the reality of the situation. Social practices in interdependent cultures highlight the need to belong, and as such they may enhance opportunities to practice fit-focused secondary control. People may also experience greater benefits from engaging in secondary control and fewer negative effects from a lack of personal primary control than people who live in cultures that promote individualism. (Throughout this section, we focus on personal, rather than collective, primary control or indirect primary control, because personal primary control is the kind most often studied.) For example, Asians may feel less distressed by a lack of personal control, because subsuming personal goals may be socially rewarded, and they may receive fewer benefits from control than Westerners, because exerting personal control violates important cultural norms (Sastry & Ross, 1998). In addition, to the extent that the most studied interdependent cultures have a social code emphasizing obedience to authority, tight social norms, or filial piety (Triandis, 1989), people may be more accustomed to adjusting the self and accepting social circumstances. It is telling that there is no indigenous word for “control” in at least one East Asian language, Japanese. Interdependence and collectivism, in theory at least, are relatively more compatible with secondary control. Indeed, one recent study (Lam & Zane, 2004) clearly demonstrated that Asian Americans differ from White Americans on their levels of secondary control and that this cultural difference was partially mediated by ethnic group differences in interdependence. Particularly because this study used a measure that is consistent with the fit-focused definition, it provides strong support for the connection between interdependence and secondary control.

In contrast, a person who lives in a culture that emphasizes individualism, independence, and autonomy may be more compelled to control the environment via personal primary control, as personal primary control highlights the self and its preferences as a causal agent. Perhaps especially among middle and upper social class populations (i.e., those most commonly studied in psychological research), perceptions of personal control for one’s success enhance self-esteem and reaffirm one’s individual and personal traits (Gurin, Gurin, & Morrison, 1978; Snibbe & Markus, 2005).

The idea that secondary control is emphasized differently in different cultural contexts was promoted early on by Weisz, Rothbaum, and Blackburn (1984). These authors reviewed psychological, religious, organizational, and historical evidence to suggest that secondary control is more positively emphasized in the Japanese cultural context. Azuma (1984) wrote that in Japanese culture an aggressive style of self-assertion (i.e., primary control) is strongly discouraged. “The ability to yield in good grace was more highly valued than the ability to assert” (1984, p. 970), and such yielding demonstrates one’s maturity. Kojima (1984) also argued that primary control is less valued in Japanese culture, because protecting social bonds is more important in Japan than getting one’s individual needs met. In cultures that emphasize collectivism, like Japan, secondary control appears to be relatively more elaborated, practiced, and valued.

Evidence for Cultural Differences in Secondary Control

A number of studies offer empirical support for the idea that primary control is relatively more preferred (used more) in cultures or subcultures that foster an individualistic, autonomous view of the person. The same studies, moreover, often show that secondary control is relatively more important in cultures or subcultures that foster an interdependent view of the person. As before, we organize our review around the ways that secondary control has been operationalized.

Between-groups research consistent with the fit-focused definition. Of three studies that are consistent with the fit-focused definition of secondary control, all three showed significant, between-culture differences in secondary control when comparing several Asian or Asian American samples with European or European American samples (Lam & Zane, 2004; Seginer et al., 1993; Trommsdorff & Essau, 1998).

Between-groups research not consistent with the fit-focused definition. Studies using other definitions of secondary control also have found higher ratings of secondary control and lower ratings of primary control in East Asian samples (Y. Peng, 1993; Sastry & Ross, 1998). However, at least four East-to-West comparisons in this category have shown few or no between-groups differences between samples on secondary control (Flammer et al., 1995 McCarty et al., 1999; Morling et al., 2003; Spector et al., 2004).

It is important to note that there are problems with comparing between groups mean levels of primary or secondary control, as rated by one cultural sample, with mean levels reported by another and concluding that observed differences in ratings are evidence of functional differences. Mean ratings, especially of personal values, may represent “deprivation effects” (K. Peng, Nisbett, & Wong, 1997). That is, people may endorse a value because they want more of it, rather than because they already have it. Mean comparisons are also subject to the “reference group effect” (Heine, Lehman, Peng, & Greenholtz, 2002). That is, people often compare themselves with their own peer group when they rate themselves on subjective Likert scales. This reference group will affect means. As they illustrated, a 5’6” (1.68-m) Pygmy might rate himself as “tall” (compared with his peers), but a 5’0” (1.68-m) Dutch man would rate himself as “short” (compared with his peers). In many studies of secondary control, such subjective scales are used, making them susceptible to reference group ef-
fects. Such effects may result in no mean difference when there
actually is a cultural difference, or they may result in a research
outcome opposite what anthropologists and other cultural experts
might predict. One study provided qualitative data to support that
secondary control is more elaborate in an East Asian sample
(Oerter, Oerter, Agostiani, Kim, & Wibowo, 1996). One quanti-
tative way to get around the reference group effect is to use
idiographic methods that compare whether primary or secondary
control is preferred within the individual. Idiographic methods are
promising but have not been commonly used in research on this
topic. Another way to get around the reference group effect is to
test within-culture rankings; some data does speak to this question.

Within-subject cultural research consistent with the fit-focused
definition. Three studies have tested within-group relative con-
trol rankings, all three are consistent with a fit-focused secondary
control definition, and all have found that secondary control is
more frequent or more highly rated than personal primary control
in Asian samples (Morling et al., 2002; Seginer et al., 1993;
Trommsdorff & Essau, 1998).

Within-subject cultural research not consistent with the fit-
focused definition. Four reviewed studies did not use our defini-
tion to compare control rankings among Western and non-Western
samples. In one, Japanese women preferred two subtypes of sec-
condary control over primary control, but American women also
showed these preferences (Morling et al., 2003). Three other
studies did not find that Asian/Asian American samples rated
secondary control higher than primary control (Flammer et al.,

In sum, when measures are consistent with a fit-focused defi-
nition of secondary control, East Asian samples show the pre-
dicted, relative preferences for secondary control over primary
control. The fact that several studies showed that a non-Western
group rated secondary control higher than primary control chal-
enges the claim that primary control is universally primary. How-
ever, these within-culture comparisons of primary and secondary
control speak only to people’s control preferences; they do not
address the relative functionality of primary or secondary control.
A much stronger test of the universal functionality of each type of
control would involve investigating whether the correlates of pri-
mary and secondary control are different cross-culturally.

Cultural research on the correlates of primary and secondary
control. People who live in a culture that emphasizes individu-
alism, independence, and autonomy may benefit more from pri-
mary control and less from secondary control than people who live
in cultures that emphasize interdependence and collectivism. A
handful of studies comparing the correlates of primary and sec-
condary control suggests that the outcomes of primary and sec-
condary control appear to vary cross-culturally. Three studies focus on
the fact that primary control is not universally beneficial. Sastry
and Ross (1998) reported that Asians and Asian Americans re-
ported feeling less primary control over what happens to them than
non-Asians, but they did not exhibit the typical negative relation-
ship between primary control and distress. African American men
and women in prison did not benefit from high levels of perceived
primary control, whereas primary control had the expected nega-
tive relationship with distress for the White inmates (Evered et al.,
2001; Thompson et al., 1996).

One study demonstrated cultural differences in the benefits of
secondary control. Japanese women benefited from a form of
vicarious secondary control coping (dubbed “social assurance”)
during pregnancy, whereas American women did not (Morling et
al., 2003). In contrast, American women benefited from an
acceptance-framed measure of secondary control, whereas Japa-
nese women did not. Despite these four studies, the field sorely
needs more research on how the correlates of primary and fit-
focused secondary control vary across cultures; We recommend
that such research would be most informative if it were to adopt
our fit-focused definition of secondary control, because it is less
cumbered by assumptions that primary control is a universal and
sole hallmark of human functioning.

Directions for Future Secondary Control Research

In this review, we have introduced a fit-focused definition of
secondary control that specifies adjustment and acceptance as two
essential components of secondary control. We have reviewed
research on secondary control in light of this definition. Research
that has used our definition quite clearly supports that (a) second-
ary control is adaptive; (b) secondary control is not correlated with
traditional, perceived control; (c) secondary control is endorsed
more strongly by people in interdependent cultural contexts. We
also proposed that under a fit-focused theoretical perspective,
secondary control is not usefully viewed as functionally secondary
to primary control; we proposed that secondary control may be
primarily functional for relationships.

Researchers Should Consciously Choose a Definition

Our hope is that future secondary control researchers will self-
consciously place themselves on the dimension of whether sec-
ondary control is about fit or control. Researchers should clearly
indicate whether they endorse a fit-focused definition of secondary
control or a control-focused definition. We have argued that a
fit-focused definition is best in keeping with the original article,
empirical evidence, and parsimony. Therefore we recommend this
be the dominant definition for future research. However, some
researchers will opt to maintain a control-focused definition of
secondary control. The definition researchers adopt significantly
shapes their assumptions about functionality and the operational-
izations they use. Decisions about defining secondary control
should be publicly defended, and researchers should be conscious
about the potential impact of their definitions on the research they
conduct.

Testing the Fit-Focused Definition in Research

Another key suggestion for future research on the secondary
control construct is that researchers begin to use the two-part
definition we propose here. If all researchers assessed the extent to
which participants adjusted some aspect of themselves, and the
extent to which they accepted the environment as it is, the body of
research on secondary control might better cohere.

In an ideal study, future researchers could operationalize sec-
ondary control by measuring both aspects specifically and separ-
rately, and then combining the two measurements. For instance, to
measure secondary control responses to a stressful event, research-
ers could ask two questions: (a) To what extent do you accept the
realities of this stressor, as they are? And (b) To what extent have
you adjusted your own expectations or attitudes about this stressor? (For instance, have you started to look on the bright side? Have you changed your expectations about what will happen?). In the personality domain, people could respond to questions such as (a) To what extent do you tend to accept your current ______ [romantic life, job situation, course schedule]? And (b) To what extent do you tend to alter your own attitudes or feelings about your current ______ [romantic life, job situation, course schedule, etc.]? Such questions might be answered on Likert-type scales and then combined. A participant might be identified as using secondary control only when he or she has endorsed both of these items strongly. As another alternative, researchers could combine both elements within single items when assessing the use of secondary control. In other words, secondary control researchers could measure the extent to which a person uses a particular self-adjustment strategy with the goal of accepting the situation as it is (e.g., “I try to look on the bright side so I can live with this situation”). Alternatively, if researchers choose to use a particular operationalization of secondary control, for example, finding benefits in a stressor, we suggest that they measure whether participants engaged in benefit finding in order to accept the environment. This would serve as a direct measure of secondary control coping.

Future researchers could test the viability of our two-part definition. For instance, they could test the extent to which adjusting alone, acceptance alone, and both combined predict well-being during a stressful situation. By using scale items that separately measure adjusting the self and acceptance of the environment, researchers could compare these two components separately to an arithmetic composite of the two. In a regression analysis, for example, researchers could compare the main effects for adjusting and accepting, separately, with the combination of adjusting and accepting, to test whether the combined construct is a more meaningful predictor of other personality traits or outcomes. If our definition is viable, then the combined use of the two constructs will be more informative and meaningful than either of the elements on its own.

**Research on Accommodation May Inform Secondary Control**

Secondary control, as we have defined it here, overlaps conceptually with a set of constructs in personality, health, and social psychology that are studied under the rubric of “accommodation.” Although these constructs have been studied separately in the past, we propose that researchers going forward with work on secondary control would likely benefit from an exploration of the theories and measures of accommodation. Accommodation research might be meaningfully reviewed alongside secondary control to reach firmer conclusions about the use of such strategies. Additionally, secondary control researchers can look to the accommodation literature to find fresh inspiration for theorizing and testing.

**Accommodative Coping**

Accommodation has recently been identified as a coping strategy separate from alternative ways of coping. Accommodation is one of 12 theoretically distinct coping “families” that includes the strategies of distraction, cognitive restructuring, minimization, and acceptance (Skinner et al., 2003). Relatedly, Walker et al.’s (1997) Accommodative Coping factor includes cognitive strategies such as positive reappraisal and acceptance that “theoretically enable the individual to adapt to unchanged stressful conditions” (p. 393). In both of these sources, accommodation contains both adjustment and acceptance features, which highlights a similarity to fit-focused secondary control. At this point, the secondary control literature is more expansive than the accommodative coping literature, which seems limited to a few key articles (Greve & Strobl, 2004; Skinner et al., 2003; Walker et al., 1997). However, accommodative coping research should certainly be included in reviews of fit-focused secondary control, especially for those interested in health and well-being. In addition, accommodative coping research has usefully distinguished between accommodation, on the one hand, and passivity or relinquished control, on the other. This distinction can prove useful to distinguish fit-focused secondary control from more negative responses such as resignation.

**Assimilation and Accommodation and Resilience in Aging**

Another use of accommodation in research comes from Brandstätter and Renner (1990, 1992) and Brandstätter and Rothermund (2002), who propose a dual process theory that applies to development across the life span. According to this theory, when individuals tenaciously pursue personal goals and action plans, they are using an assimilative mode of coping. In this assimilative mode, people “actively [adjust] developmental and life circumstances to personal preferences” (Brandstätter & Renner, 1990, p. 58). In contrast, when individuals flexibly adjust their goals and action plans, they are using an accommodative mode of coping. In the accommodative mode, people “[adjust] personal preferences and goal orientations to given situational forces and constraints” (p. 58). This definition of accommodation explicitly emphasizes adjustment of one’s goals and seems, implicitly, to acknowledge acceptance of unchanged (or unchangeable) circumstances.

One potentially interesting implication for future work on fit-focused secondary control is that “the common motivational background of assimilative and accommodative processes is... a tendency to achieve consistency [italics added] between actual and intended courses of development” (Brandstätter & Renner, 1990, p. 59). In assimilation, people achieve this consistency by changing the situation to match the self’s wishes. In accommodation, people achieve this consistency by changing the self and explicitly not altering the situation. Their argument about self-consistency—that is, consistency between what people want to do and what they have been able to do—might be viewed as a kind of fit. Slightly different is Rothbaum et al.’s (1982) use of the term, which is about fitting the self to the environment. However, the interesting thing here is that Brandstätter and Renner (1990) put both assimilation and accommodation (similar to primary and secondary control) under the umbrella of motivation for consistency. The idea that even primary control might be in the service of fit or consistency, rather than control, is potentially interesting for future conceptualizations of primary and secondary control.

Another aspect of this theory that might influence research on fit-focused secondary control is that accommodative processes are framed as nonintentional (Brandstätter, 1998, 2000). An implication of such processes is that “we are not generally able to modify our personal beliefs and preferences merely because it
seems advantageous to do so. Rather, such changes happen to us under certain circumstances and, thus, are counterexamples of personally controlled action” (Brandtstädtér & Renner, 1992, pp. 309–310). To the extent that fit-focused secondary control overlaps with accommodation, this view suggests that it cannot be manipulated though conscious control. However, some self-adjustment processes such as finding benefits, construing a situation in a nonthreatening way, or focusing on new goals seem to be at least partly controllable, as research on emotion regulation (e.g., John & Gross, 2004) and psychotherapy in children (Weisz et al., 1997) have suggested. Thus, it might be possible to encourage some aspects of these processes and, if so, researchers could train people to benefit from fit-focused secondary control. If people can be induced to practice fit-focused secondary control, it would also allow for experimental studies of this phenomenon, in contrast to the almost exclusive use of correlational methods to date. However, Brandtstädtér’s theorizing indicates that conscious control of secondary control may be limited at least to the extent that secondary control and accommodation overlap.

Accommodation in Relationships

One significant line of research in relationship science explicitly supports that secondary control–like behaviors are related to relationship success. In research conducted according to interdependence theory, Rusbult, Bissonnette, Arriaga, and Cox (1998) have demonstrated that accommodative behaviors on the part of one partner (e.g., not fighting back when the partner says something rude, or more specifically “changes oneself so as to solve the problem” (p. 76) are associated with greater commitment and with better couple functioning (Rusbult et al., 1998). Rusbult et al.’s research supports that deeply committed partners are more likely to accommodate, and more accommodative behaviors enhance dyadic adjustment. Rusbult et al.’s work provides one potential model for studying fit-focused secondary control in the context of relationships. Such work can be adapted to investigate how, when, and to what extent secondary control serves relationship health.

Another area of research in relationships concerns the effectiveness of integrative behavioral couple therapy (IBCT; Wheeler, Christensen, & Jacobson, 2001). Compared with traditional behavioral couple therapy, which focuses on changing the partner’s behaviors, IBCT emphasizes that each partner should change the self and accept the other person, activities that correspond exactly to our adjustment and acceptance definition of secondary control. IBCT leads to greater intimacy and empirically demonstrable increases in relationship satisfaction, consistent with our idea that secondary control may help relationships. Because it outlines actual exercises that enhance partner acceptance, IBCT provides a model for experimentally testing fit-focused secondary control in a relationship context.

Do Secondary and Primary Control Work Together, and if So, How?

The relationship between primary and secondary control is ultimately an empirical question but one that can be guided by quite different theoretical perspectives on these constructs.

Primary and Secondary Control May Serve Different Motives

A recent review raised the possibility that primary and secondary control strategies are completely unrelated. Skinner et al. (2003) argued that primary control (or assimilative strategies) serve the larger function of coordinating one’s “actions with the contingencies in the environment” (p. 245), whereas secondary control (or accommodative strategies) serve the larger function of “coordinating [one’s] preferences and available options” (p. 245). Our suggestions here include the idea that primary control is well-suited for serving a human need for control, whereas fit-focused secondary control serves needs for belonging or consistency or leads directly to well-being. This leads to the idea that the two categories of response may be independent in that they could be serving completely different human functions. As such, measures of primary control and fit-focused secondary control will show empirically separate relationships with empirically separate well-being outcomes. Primary control may be independently associated with mastery-oriented measures of well-being, whereas fit-focused secondary control may be independently associated with measures of well-being that emphasize relatedness, serenity, or consistency.

Primary and Secondary Control May Be Complementary Opposites

Theoretical discussions by Brandtstädtér and colleagues inspire a more paradoxical idea: that primary control and secondary control might be opposite, but compatible, psychological processes. Assimilation and accommodation, these authors have stated, are “mutually inhibiting, but also complementary” (Brandtstädtér, Rothermund, & Schmitz, 1998, p. 371). By defining secondary control as adjustment of the self and acceptance of the environment, we also set up secondary control to be the opposite of primary control, in which the individual’s goal is to change the environment. However, even though these are opposites, they may still work together in some coherent way. Similarly, Rothbaum et al. (1982) wrote, “It is not enough to be proficient at one process of control; in fact, proficiency is a handicap if it interferes with the development of the complementary process” (p. 30). Thus, rather than working against each other hydraulically, primary and secondary control may be integrated, as people paradoxically use both strategies at the same time. For example, people may use the two processes simultaneously but directed toward different targets (perhaps by downgrading the importance of some goals and investing in others; Brandtstädtér & Rothermund, 2002). More radically stated, feeling able to ultimately accept one’s circumstances might sustain one’s confidence for changing them. Similarly, feeling able to change one’s circumstances might sustain one’s ability to tolerate them when the costs of primary control are momentarily too high.

As it is enacted within the person, the paradoxical interplay between assimilation and accommodation, or between primary and secondary control, does not cleanly conform to traditional analytical logic. Psychologists know that psychological processes involved in personality and health psychology often do not interact logically, and the processes of primary and secondary control may be no different. Nevertheless, it may be difficult to ask Western
research participants to reflect in meaningful ways on the paradox of simultaneously striving for change and preparing to accept one’s circumstances. Western models of thought apparently teach people to resolve contradictions with analytical, linear thinking rather than dialectic or holistic thinking (Nisbett, 2003; K. Peng & Nisbett, 1999). As a result, Western people may not wish to acknowledge that they simultaneously consider changing the environment and adapting to it, because this would acknowledge a self-contradiction that Westerners are acculturated to avoid (see Cialdini, 2000; Festinger, 1957). Thus, researchers may need to use creative methodologies to capture a paradoxical relationship between primary and secondary control. Despite such difficulties, we anticipate that creative research conceptions of these two apparently contradictory constructs will lead to some fruitful new research on primary and secondary control.

Summary and Conclusion

In this review, we suggest that future research on secondary control should explicitly acknowledge that secondary control is the simultaneous exercise of two actions (adjusting the self and accepting the environment). Only when both of these components are measured together, can researchers be certain that they are capturing the original spirit of secondary control as a healthy, active, functional, and uniquely human negotiation between self and context.

On the basis of our review of the empirical evidence (organized around this new, fit-focused definition), we were able to find ample evidence for two ideas from the original articles on secondary control: First, secondary control is very often associated with positive outcomes, and second, secondary control is a construct that appears to be more relevant, elaborated, and preferred in non-Western cultures (Weisz et al., 1984). Less successful was the search for evidence for two other claims, forcing us to conclude that secondary control may not actually constitute “control,” and that secondary control is not functionally “secondary.” However, research on whether secondary control fosters perceived control and whether it is functionally secondary has rarely been explicitly tested; furthermore, such answers are intimately dependent on how concepts are defined. In this article, we defended our own definition and its assumptions in terms of Rothbaum et al.’s (1982) original theory, but other theory-derived definitions (specifically, Heckhausen & Schulz, 1995) depend on significantly different assumptions. Work based on other definitions of secondary control may exist in parallel to our fit-focused definition. In fact, we hope that the dimension of fit versus control provides a “good fence” that will enable the two lines of research to be “good neighbors.” We urge future researchers to more consciously place themselves in a theoretical space defined by the dimensions of whether secondary control is more about fit or about control, and whether secondary control is functionally secondary to primary control. Articulating these fundamental assumptions will enable researchers to more clearly state alternative hypotheses; indeed, we urge future researchers to begin to test the assumptions that their theories previously took for granted.

More broadly, our synthesis of the most prominent lines of theory on this construct led us to recommend research on several theoretical ideas. Fit-focused secondary control may be in the service of healthy relationship functioning. It may operate para-doxically with primary control, such that people simultaneously act for change in the environment and accept the environment as it is. Such potential research directions run counter to conventional assumptions about the nature of human goal-directed action (as focused on pursuing individual goals vs. accepting environmental circumstances), about the locus of human functioning (as placed within the individual or between people), and about how people might simultaneously intend to change and accept the environment. These broad questions, some posed by us, others attributable to researchers on accommodation, remind us of the unconventional spirit of Rothbaum et al. (1982), who proposed that categories of human action are more complex than the dichotomy of “healthy and active” and “unhealthy and inward.” By decoupling “inward” and “unhealthy,” these authors inspired research on how people might actively adjust the self, accept environmental contingencies, and still be psychologically healthy.

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