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Definition and measurement of guilt: Implications for clinical research and practice

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Abstract

Research on the relation of guilt to psychopathology is highly inconsistent. Some studies suggest that guilt contributes to psychopathology; others suggest that guilt serves a protective role. This review of 23 theory-based definitions of guilt and 25 measures of guilt suggests that a lack of conceptual clarity may be to blame. Measures of guilt do not correspond well to the definitions from which they derive. Many definitions and measures reflect the intrusion of extraneous constructs that could confound guilt research. Furthermore, definitions and measures of guilt change with developmental level. Nevertheless, two broad conceptualizations of guilt emerge. Central to both is a focus on one's action or inactions involving real or imagined moral transgressions. Distinguishing the two conceptualizations is whether or not guilt is inherently adaptive construct, generating remorse, augmenting a sense of responsibility, and motivating reparation. Recommendations for the definition and measurement of guilt are discussed.

Keywords

Guilt; Development; Measurement; Children; Adults

1. Introduction

Research concerning the relation of guilt to psychopathology is fraught with contradiction. Philosophers, theologians, and sociologists have wrestled with the concept of guilt for centuries. In this review we focus on aspects of a similar struggle among psychologists. Even a cursory review of the literature reveals highly discrepant results regarding the relation of guilt to clinical constructs such as depression, obsessive compulsive disorder, anxiety, somatization, and psychosis. We submit that reasons for these discrepancies derive from substantive variations in the definition and measurement of guilt. The over-arching goal of this literature review is to describe diversity of definitions and measures of guilt—highlighting discrepancies, searching for commonalities, and concluding with recommendations for clinical researchers interested in the guilt construct.

Contradictory empirical results are especially clear in studies of depression, anxiety, obsessive compulsive disorder (OCD), and eating disorders. In depression-related research, Tangney and Bybee posited that guilt is a positive, healthy construct (Bybee, Williams, & Merisca, 1996; Tangney, 1991; Tangney, Wagner, & Gramzow, 1992; Williams & Bybee, 1994). Motivating reparation and expiation, guilt should reduce or prevent depressive symptoms. Research with measures that reflect this definition often reveals *negative correlations* between guilt and depression (Bybee et al., 1996; Tangney, 1991; Tangney et al., 1992; Williams & Bybee, 1994). In contrast, researchers such as Harder and Kugler suggested that guilt is a negative construct, reflecting inner pain and tension with negative consequences. Not surprisingly, research with measures that reflect their definition has typically revealed *positive correlations* between guilt and depressive symptoms (Harder, 1995; Kugler & Jones, 1992b).

Discrepancies also pervade anxiety research. On the one hand, Lowe and Mosher have speculated that guilt and anxiety are so closely related to each other as to be indistinguishable, at least in some contexts. Empirical work supports this position (Lowe, 1964; Mosher, O'Grady, & Katz, 1980). On the other hand, Niler and Beck (1989) regarded guilt and anxiety as quite different constructs. Their research (using different measures) suggested that guilt is positively related to impulsive thoughts, whereas anxiety is not.

A third set of discrepancies pertains to the relation of guilt to OCD. Several investigators have discovered positive relations between guilt and OCD, leading them to speculate that guilt might best be regarded as an integral part of the disorder (Harder, Cutler, & Rockart, 1992; Rasmussen & Eisen, 1991; Shafran, Watkins, & Charman, 1996). In contrast, Mancini and Gangemi (2004) suggest that fear of guilt, not guilt per se, is actually the construct that underlies the exacerbation of OCD symptoms.

A fourth domain of guilt-related psychopathology is eating disorders. Sanftner, Barlow, Marschall, and Tangney (1995) hypothesized that guilt has substantial positive and corrective features. Their research supports this hypothesis, revealing a negative relation between guilt and eating disorders. Using different measures, however, Burney and Irwin (2000) focused on the negative features of guilt, and found that guilt was positively associated with eating disorder symptoms (Burney & Irwin, 2000).

Existence of such discrepant definitions, predictions, and findings about a construct is rare in the social sciences and should be a reason for concern. We contend that these discrepancies are due to variability in the conceptualization and measurement of the guilt construct. Our goal is to advance the understanding of guilt through an analysis of its nomological network. Cronbach and Meehl (1955) defined the nomological network at two levels. One level consists of its nomothetic span; the other consists of its construct representations. Nomothetic span refers to the constituent theoretical constructs and their theory-driven inter-relations. At this level, we are interested in how each researcher defines the theoretical construct of guilt and connects it to various clinical constructs. Construct representation refers to observables that can be measured and quantified. At this level, we are interested in how researchers operationalize their definitions of the construct. Our goal is to understand and clarify guilt first by examining the diversity of theoretical definitions of the construct

and secondly by examining the actual instruments used in its measurement. More specific goals are (1) to highlight commonalities and discrepancies among theoretical definitions of guilt, (2) to reveal consistencies and inconsistencies between theoretical definitions of guilt and the measures that derived from these definitions, and (3) to provide guidelines for the definition and measurement of guilt in ways that are informed by research but do not presuppose the results of such research.

2. Method

2.1. Article selection

Towards these goals, we used the following six rules to guide our selection of articles to include in our review.

1. Using PsycInfo and several literature reviews (e.g., Dost & Yagmurlu, 2008; Weiner, 1985), we sought published articles or chapters that introduced measures designed to represent a particular theoretical definition of guilt. We then sought articles that provided the theoretical definitions of guilt from which the measures were derived. Many times the theoretical definitions appeared in the same source as the measure.
2. When multiple versions of an instrument existed, we focused on articles that corresponded to the most recent (e.g., Tangney, Dearing, Wagner, & Gramzow, 2000; Tangney, Wagner, & Gramzow, 1989), thus concentrating on definitions and measures that were most completely informed by the author's research.
3. We limited our search to articles that focused on relatively broad conceptualizations of guilt. We excluded articles that introduced measures assessing guilt in only one very narrow set of circumstances. For example, the Maternal Guilt Questionnaire (Kuhn & Carter, 2006) assesses guilt feelings in relation to parenting a child with autism. We did not include such measures. We should note, however, that we did include articles that introduced measures of guilt across *multiple* specific situations. For example, Tangney (Tangney et al., 1992) defined guilt as situation-specific but created measures that assess guilt across a wide variety of such situations.
4. We focused only on articles that introduced measures of guilt containing more than one question. Measures that assess guilt with only one question: e.g., "How guilty do you feel?" (Kidd, 2007) do not contain information about the underlying conceptualization of guilt or the situations that elicit it. In a sense, they pass responsibility for the definition of guilt on to the person whose guilt is being assessed.
5. We limited our search to English articles and English measures. We did, however, include several examples of English measures that had been translated into other languages (Luyten, Corveleyn, & Fontaine, 1988; Rüsç et al., 2007) and several non-English measures that have been translated into English (Saelen & Markovits, 2008; Silfver, Helkama, Lonnqvist, & Verkasalo, 2008).
6. We used only published journal articles and book chapters.

Dissertations were not considered. Our goal was to provide a clear outline of the definitions and measures that are readily available to researchers to answer their empirical questions of interest. We therefore limited our search to those resources that investigators would likely use.

Guided by these rules, we identified 23 different theoretical definitions of guilt and 29 accompanying measures. (Some theories generated more than one measure.) We successfully obtained 25 of the 29 measures. Four measures were not published and were not provided by the authors despite repeated requests. We then examined each theoretical definition as articulated in these articles (without reference to the associated measures). Conversely, we examined each measure without reference to the author's theoretical description of the constructs. We coded each for a number of specific characteristics or features. (Descriptions of these definitions and measures are available from either author upon request.)

2.2. Coding the theoretical definitions of guilt

We coded each definition on 18 key features:

1. *Developmental Level* refers to the age or developmental level of the population to which the definition of guilt applies. Guilt has been examined in almost all age groups from toddlers (e.g., Kochanska, Gross, Lin, & Nichols, 2002) to adolescents (e.g., Donatelli, Bybee, & Buka, 2000) to adults (e.g., Mosher et al., 1980). According to Kochanska et al., "most developmentalists believe that... young children begin to be clearly aware of their transgressions, misbehaviors, or substandard behaviors" by the age of 2 (Kochanska et al., 2002, p. 461). Ferguson, Stegge, and Damhuis (1991) claimed that at 8 years of age a child's sense of morality shifts from a unilateral respect for authority's approval or disapproval, to one based on mutual respect for self and others. This code was designed to indicate what age range, if any, the authors declared as appropriate for their definitions of guilt.
2. *Moral Transgression* refers to the idea that the individual being evaluated has violated a sense of right and wrong. Experiencing guilt involves the perception that a person has transgressed rules of morality. For example, Harder and Greenwald's (1999) definition clearly states that guilt "involves a sense of moral transgression" (p. 271).
3. *Social Transgression* refers to the actual or perceived violation of societal norms. To be coded as social transgression, the definition must explicitly refer to the idea that an individual's action or inaction caused others to be hurt. Social norms can include any set of rules determined by family, institution, or social group. For example, O'Connor, Berry, Weiss, Bush, and Sampson's (1997) definition defined guilt as "painful affect arising from the belief that one has hurt another" (p. 74).
4. *Self-focus* refers to a component of guilt in which one's sense of self is the focus of the experience. That is, the guilt experience explicitly involves one's self, one's self-image, or one's identity. Klass' (1987) definition of guilt clearly contains this

component when she says that “guilt involves self-reproach” (p. 36). Similarly, Johnson and colleagues (1987) referred to guilt as “a feeling of negative self-regard” (p. 359).

5. *Not Self* is an aspect of guilt in which one’s self is *explicitly excluded* from the guilt experience. Experiencing guilt does *not* involve reflection upon one’s self, one’s self-image, or one’s self identity. For example, Alexander, Brewin, Vearnals, Wolff, and Leff (1999) clearly indicated that in guilt, “the focus is not on the self” (p. 326).
6. *Public/Other* is a feature of guilt when the definition includes reference to the existence of a real or imagined audience. Central to this aspect of guilt is a concern with other people or what other people might think. An example of this is evident in O’Connor et al.’s 1997 definition that refers to a component of guilt in which “people see themselves through the eyes of someone they believe hates them” (p. 78).
7. *No Public/No Other* is the converse of the Public/Other feature, in which guilt is defined with *explicit* reference to the lack of a real or imagined audience. Guilt is a private experience that does *not* involve other people or what they might think. Johnson et al.’s (1987) definition clearly contains this component when they say “guilt is a feeling... without any need for an audience” (p. 359).
8. *Behavior/Activity* is part of guilt when the definition focuses on behavior, activity, actions, or inaction (i.e., failure to act when action is called for). This component of guilt is often discussed as an act of commission or omission. Behavior/activity is central to Tangney and colleague’s conceptualization of guilt, as evident in her statement that with guilt “the object of concern is some specific action (or failure to act)” (1992, p. 469).
9. *Adaptivity* is part of guilt when the author states explicitly that guilt is a positive construct that leads to positive outcomes. Adaptive guilt involves processes that motivate an individual to avoid similar transgressions in the future. The adaptive character of guilt is evident in Williams and Bybee’s (1994) definition, which states that guilt “may reflect a healthy conscience and may serve as a deterrent against anticipated wrongdoings” (p. 617).
10. *Maladaptivity* refers to characterizations of guilt as a negative construct that leads to problematic outcomes. Maladaptive guilt involves processes that reduce motivation to engage in constructive behaviors. A clear example is evident in Jones, Schratter, and Kugler’s (2000) definition of guilt as “having... maladaptive consequences” (p. 1039). Harder and Greenwald (1999) also characterized guilt as maladaptive when they declared that guilt has “pathogenic characteristics” (p. 272).
11. *Remorse/Apology* involves the idea that guilt involves the compulsion to apologize or confess. Here, the experience of guilt is marked by remorse and sorrow. An example of this component comes from Klass’ (1987) definition, where she stated that guilt involves “remorse for one’s thoughts, feelings, or action” (p. 36).

12. *Reparation* refers to a need or motivation to repair, fix, or make amends for what has been done wrong. Experiencing this component of guilt involves a drive to undo damages. Ferguson et al.'s (1991) definition reflects this characteristic, stating that guilt involves a "desire to make amends" (p. 829). Hoblitzelle (1987) likewise suggested that guilt includes a focus on "possible reparations" (p. 209).
13. The idea that guilt is *Trait-Like* refers to a conceptualization in which guilt is expressly dispositional, chronic, or characterological. Such definitions state that it occurs across many situations or is enduring over time. Harder and Greenwald's (1999) definition reflects this feature when they say that feelings of guilt are "chronic experiences" (p. 272).
14. Guilt is *Specific* when the definition refers to the experience of guilt as pertaining to certain situations or periods of time. It is often described as a transient experience that does not necessarily generalize across situations. Tangney et al. (1992) included this characteristic in her definition when she noted that guilt focuses on a specific action, behavior, or attribution (pp. 469–470).
15. The idea of guilt as *Painful* suggests that it constitutes an uncomfortable, even viscerally disturbing condition. Definitions of guilt as a "painful emotion" (Mosher et al., 1980, p. 35) or "a painful affect" (O'Connor et al., 1997, p. 74) reflect this idea.
16. *Responsibility* is central to guilt when the definition involves the perception of ownership or culpability. This sense of responsibility need not be plausible to others. Implausible responsibility is evident when young children feel responsible for their parents' divorce. Hoblitzelle (1987) stated that guilt is something "for which the self is responsible" (p. 209), and Caprara and colleagues noted that guilt includes "feelings associated with own perceived responsibility" (Caprara, Manzi, & Perugini, 1992, p. 519).
17. *Subtype* is coded when the definition involves a specific kind of guilt. Subtypes may refer to certain events, emotions, or personality characteristics. Examples of such subtypes are hostility guilt, sex guilt, morality conscience guilt, survivor-guilt, separation-guilt, and omnipotent-guilt (Mosher et al., 1980; O'Connor et al., 1997).
18. Finally, we allowed for *Other Specific Characteristics*. This category refers to other salient features that are specific to only a few definitions and are not captured elsewhere. For example, inhibition is central to Mosher et al.'s (1980) definition, and fear of punishment is central to Caprara et al.'s (1992) definition.

2.2.1. Coding process—Three psychology graduate students received extensive training on the coding system. Training consisted of memorizing the codes, discussing nuances of the code definitions with the principal investigators, and executing practice trials. Practice coding involved the independent application of the coding system to articles not used in this review. Training continued until coders reached 90% reliability. Once trained, coders read articles and highlighted passages where the authors clearly endorsed one of the codes as core to the definition of guilt. Fifteen of the categories were dichotomously coded as absent or

present. When qualitative codes (Developmental Level, Subtype, Other Specific Characteristic) pertained to the definition, raters briefly described the characteristic. Rater disagreements were resolved in conferences with the principal investigators.

2.3. Coding the measures of guilt

Guilt measures were coded with a slightly modified version of the (above) coding system. The one change was that raters were instructed to take into account the time-frame of the instructions and the type of measure when applying the “Trait-like” and “Specific” codes. If an instrument asked a respondent to indicate how common a feeling is or if it aggregated responses across a wide variety of scenarios, the measure was regarded as measuring trait-like guilt. If a measure prompted respondents to describe their current feelings, the measure was coded as representing situation-specific guilt.

2.4. Results of coding the theoretical definitions of guilt

Results of the coding of all 23 theoretical definitions of guilt are summarized in Table 1. The table is sorted first by age of the targeted population and then alphabetically by author. (To avoid excessive verbiage, we simply refer to theoretical definitions by the authors’ last names.) The variability of the theories is striking. Nevertheless, some characteristics were more common than others. The left panel of Fig. 1 shows how many of the theoretical definitions reflected each characteristic. In all, eight major findings emerged: (1) Definitions were highly diverse and did not conceptually converge on a common underlying construct; (2) Definitions tended to include the idea that guilt involves moral (and often social) transgressions; (3) Definitions sharply diverged as to whether guilt had an inherently adaptive component; (4) Developmental differences were evident in the definition of guilt; (5) Definitions were highly discrepant regarding whether guilt is inherently trait-like, situation-specific, or both; (6) Definitions disagreed as to whether guilt is necessarily associated with an individual’s action (or inaction); (7) Definitions diverged regarding the degree to which guilt involved impugning the self; and (8) Some definitions divided guilt into subtypes, whereas others did not.

2.4.1. Lack of conceptual convergence—On average, definitions of guilt shared only 60.7% of the same codes. Many were far less correspondent (the range was 29.4% to 88.2%; see Table 2). Nevertheless, one small cluster of similar definitions did emerge, averaging 81.2% agreement. This cluster consisted of definitions by Cheek, Evans, Hoffman, Izard, and Watson. Closer examination revealed that all five theories contained fewer than 3 codes. Essentially, the apparent convergence among these definitions was due to a general absence of characteristics, not the inclusion of similar ones.

2.4.2. Moral, but not necessarily social, transgression—Second, most definitions (19 out of 23) contained a moral transgression component, and about half of these (9 out of 19) explicitly mention social transgression. Theoreticians agree that guilt has moral implications in which one is troubled by transgressions that violate one’s sense of right and wrong. Although most definitions agree that guilt involves moral transgression, all do not specify that this transgression is necessarily social.

2.4.3. Adaptive versus maladaptive—Third, researchers disagreed about the adaptive versus maladaptive nature of guilt. Six definitions explicitly stated that guilt can be both adaptive *and* maladaptive (Alexander, Harder, Kugler, O'Connor, Bybee, Zahn-Waxler). Five definitions explicitly stated that guilt is adaptive, not maladaptive (Berrios, Ferguson, Kochanska, Benitti-McQuoid, Tangney). None exclusively incorporated only the maladaptive component. This suggests basically two schools of thought about the adaptive quality of guilt. One suggests that guilt is solely adaptive: guilt feelings motivate people to atone for past transgressions and avoid future ones. The other suggests that guilt can be either adaptive or maladaptive: guilt can either motivate avoidance of future transgressions or it can initiate other processes that have negative health-related consequences.

2.4.4. Developmental differences—Fourth, theoretical definitions of guilt changed with the age range of the targeted individuals. One such change pertained to the degree to which the definitions explicitly reference social transgressions. Of the five definitions that focus on children under 9 years of age, only one referred to social transgressions (Barrett). Of the two definitions that pertained to children between 9 and 12, both explicitly mentioned social transgressions (Bybee, Tangney). See bottom of Table 1. The consensus seems to be that interpersonal conflicts begin to elicit guilt around the age of 9. The other age trend pertained to the adaptive nature of guilt. Among child and adolescent definitions, 5 out of 7 suggested that guilt was adaptive, compared to only 6 of the 16 adult definitions. Theoreticians generally agree that guilt is adaptive for younger children. For adults, however, theoretical definitions are quite mixed and yield no clear consensus.

2.4.5. Trait-like versus specific nature of guilt—Fifth, definitions varied widely with regard to the trait-like or specific nature of guilt. Our results suggest the existence of three schools of thought. One is that guilt is trait-like or characterological, a position supported by two definitions (Kochanska and Bybee). The second is that guilt is transient or highly situation-specific, a position evident in five definitions (Alexander, Barrett, Benitti-McQuoid, Ferguson, and Tangney). The third is that guilt can have *both* trait- and state-like qualities, as articulated in four definitions (Harder, Jones, O'Connor, and Otterbacher). These discrepancies suggest that the theoretical relation of guilt to other variables will vary considerably, depending upon the choice of one's definition.

2.4.6. Behavior or activity—Sixth, definitions diverged with regard to the idea that guilt is inherently linked to the commission of some misbehavior. Half of the definitions (14 of 23) indicated that guilt pertains to such action (or inaction when action is called for). The other half make no reference to the idea that inappropriate action (or inaction) is required for guilt. Clearly, theorists do not agree as to the behavioral antecedents of guilt.

2.4.7. The importance of the self—Seventh, definitions diverged with regard to their emphasis on the role of the self. Almost half (11 of 23) of the definitions emphasized the centrality of the self in the definition of guilt, typically suggesting that feeling guilty involves self-denigration. Conversely, four explicitly excluded the self from the guilt experience (Alexander, Benniti-McQuoid, Hoblitzelle, and Tangney). The latter four authors explicitly stated that guilt does not focus on the self; instead, they emphasized that the focus

is on concrete behaviors. Whether or not guilt involves blaming one's self or one's behaviors is a factor that clearly distinguishes definitions from one another.

2.4.8. Subtyping guilt—An eighth finding is that theorists divided guilt into very different subtypes. In total, five definitions described 13 different theoretical subtypes of guilt. Across these definitions, no two subtypes are the same. In almost every case, theoretical subtypes were converted into subscales of a measure, which were subsequently validated with factor analysis. We found no systematic effort to integrate the various guilt subtypes or examine their convergent or discriminant validity across measures.

2.5. Results of coding the guilt measures

Coding results for the 25 measures are summarized in Table 3. (We list the names of the measures in the table; however, in the text we refer to measures by the authors' last names to avoid excessive verbiage.) In all, five major findings emerged: (1) Content overlap among the measures was generally weak; (2) Nevertheless, examination of the similarities that did exist suggested the existence of two underlying conceptualizations of guilt; (3) Certain aspects of guilt were relatively likely to be reflected in the measures, suggesting certain common features in the operationalization of guilt; (4) Content of guilt measures changed with the age or developmental level of the intended population, and (5) Many measures assessed constructs other than guilt that could seriously affect results of studies that use these measures.

2.5.1. General lack of conceptual convergence—First, results revealed considerable heterogeneity in the measurement of guilt (see Table 4). On average, the measures of guilt shared only 60.1% of the same codes (the range was 41.2 to 94.1%). In all, only 21 of the 253 possible definition pairings shared more than 80% of the same codes. The content of the measures was as diverse as was the content of the theoretical definitions of guilt.

2.5.2. Two clusters—Despite this heterogeneity, closer examination revealed two clusters of measures. One cluster consisted of five instruments, authored by Alexander, Bennetti-McQuoid, Cheek, Evans, and Johnson. These measures contained questions about trait-like and specific aspects of guilt and either moral or social transgression. Further, they asked about specific behaviors and explicitly excluded from its assessment feelings that depend upon the publicity or the presence of others. The second cluster contained 4 measures (1 by Caprara and 3 by Tangney). These measures also tapped moral transgression, social transgression, trait-like and specific components of guilt, behavior/activity, remorse or apology, reparation, and feelings of responsibility. In addition, 3 of these 4 measures contained items that reflected the idea that guilt can be adaptive.

2.5.3. Common features—Third, certain codes were more commonly used than others, suggesting features that might be considered central to the operationalization of guilt. Conversely, other codes were rarely used, providing evidence of what researchers do not regard as central to the definition of guilt. The right-hand panel of Fig. 1 shows the frequency with which each feature was manifest in the 25 measures of guilt. Common codes (present in 80% of the measures) included moral transgression, behavior/activity, specificity,

and trait-like. Uncommon codes (present in less than 20% of the measures) were adaptive, maladaptive, no self, and painful.

2.5.4. Developmental differences—Measures differed somewhat as a function of the age of the people for whom they were created. Compared to adult measures, child and adolescent measures were more apt to reflect an adaptive element (37.5% vs. 5.8%), reparation (50.0% vs. 23.5%), and responsibility (87.5% vs. 64.7%). Additionally, measures that were designed for children younger than 5 years of age used behavioral coding and guilt induction strategies (Kochanska and Barrett), whereas measures that were designed for children older than 5 either used a questionnaire or some form of interview. We found no age for which both behavioral and verbal measures existed.

2.5.5. Peripheral constructs—Our fifth finding was that many measures contained items assessing constructs other than guilt, raising potential questions about discriminant validity. These appear in the “other specific characteristics” column of Table 3. In total, we found 13 measures that contained at least one item assessing a potentially confounding construct. The most common were worry/anxiety (7 measures), shame (3 measures), and sadness/depression (2 measures). Other potential confounds included the assessment of sins, embarrassment, self-punishment, fear, anger, empathy, gaze aversion, and bodily tension. Admittedly, some of these constructs may be more peripheral to one’s definition of guilt than others, but any one of them could be problematic depending upon the goal of the assessment. For example, if a researcher’s goal were to test hypotheses about the relation of guilt to anxiety or depression, using a measure of guilt that incidentally assesses anxiety or depression could spuriously inflate estimates of the relation between these constructs. Another example pertains to research on the distinction between guilt and shame. If researchers used one of the three guilt measures that incidentally assesses shame, distinctions between guilt and shame could be blurred. At best, the inclusion of peripheral constructs in measures of guilt adds noise to the assessment; at worst, such peripheral constructs represent confounds that can seriously bias research results.

2.6. Comparing measures to theories

In this section, we compare measures of guilt to the theoretical definitions from which they derived. Two major findings emerged: (1) The correspondence of measures to their underlying theories was highly variable, and (2) When convergence was poor, two factors were responsible.

First, conceptual convergence between the measures and the definitions from which they derived was highly variable. Table 5 contains three different kinds of convergence information. Column 3 reflects degree to which the codes that characterized a given theory also characterized its corresponding measure. These estimates ranged from 28.6% to 100% (averaging 67.7%). Column 4 represents degree to which the codes that characterized a given measure also characterized its corresponding theoretical definition. These percentages ranged from 9.1% to 100% (averaging 56.3%). The final column reflects overall agreement: that is, on what percent of all 17 characteristics were theory and measure coded the same

way? Percentages ranged from 41.2% to 94.1% (averaging 63.3%). With relatively few exceptions, the conceptual slippage between theory and measurement was substantial.

Disagreements between measures and their underlying definitions consisted of two broad types: errors of commission and errors of omission. Errors of commission occurred when a measure was coded as being sensitive to characteristics that were not part of the theoretical definition of guilt on which the measure was based. Four such characteristics were relatively common (though not always in the same instrument). The measure was more likely to be coded as (a) trait-like, (b) situation-specific, (c) involving a public element, and/or (d) involving feelings of responsibility than was its underlying theoretical definition. Errors of omission occurred when the measure was not coded as having a characteristic that was evident in its underlying theoretical definition. One such characteristic frequently emerged. Many instruments under-represented the *adaptive* aspects of guilt that were implied by the corresponding theory-based definitions.

3. Discussion

Research on the relation of guilt to psychopathology and related clinical constructs has generated highly disparate results. Our analysis of guilt definitions, guilt measures, and their correspondence reveals four over-arching findings that clarify the reasons for some of these inconsistencies. We elaborate on each of these findings, suggest our own definition of guilt, and provide rough guidelines to improve the measurement of this construct.

Our first over-arching finding was that the definition of guilt varied a lot from theory to theory and from measure to measure. In our review of 25 measures and 23 theoretical definitions, areas of disagreement gave rise to four controversial questions:

1. *Should the adaptive consequences of guilt and the engendered sense of responsibility be regarded as part of the guilt definition?* Guilt can certainly generate feelings of remorse and motivate reparations for various misdeeds. A desire to avoid feelings of guilt can also motivate appropriate future behaviors (Tangney, 1996; Tangney & Dearing, 2002; Tangney et al., 1992). The question is should these features be regarded as part of the definition and measurement of guilt, or should they be treated as distinct constructs that often (but not always) flow from guilt?
2. *Does guilt necessarily involve a sense of publicity?* That is, does guilt require a sense that real or imagined others have witnessed one's transgression? Approximately half of the reviewed measures explicitly referenced this kind of publicity, whereas the other half did not.
3. *To what degree does guilt involve self-denigration?* To some theorists, impugning the self is central to guilt (Berrios et al., 1992; Caprara et al., 1992; Klass, 1983); for others, self-denigration is actually the key characteristic distinguishing shame from guilt (Tangney, 1996; Hoblitzelle, 1987).
4. *Is guilt trait-like?* Only about a third of the theories explicitly stated that guilt is trait-like; however, in most of the measures either the instructions or the response

formats focused the respondent's attention on relatively stable or generalizable characteristics.

Second, despite these controversies, considerable agreement arose around other aspects of guilt. Most theories and measures clearly regarded guilt as deriving from either a real or imagined moral transgression. This finding was consistent across almost all levels of development. As early as 3 years of age, a sense of right and wrong as dictated by parents is relevant to guilt (Emde, Biringen, Clyman, & Oppenheim, 1991; Kohlberg, 1984). During adolescence, normative standards or rules of right and wrong are challenged and youth begin to internalize their own sense of morality (Kohlberg, 1984; Mitchell, 1975). Although the origin of such rules may change with development, researchers generally agree on the centrality of moral standard transgressions to guilt.

Guilt measures also tended to (a) tie the experience of guilt to a specific situational context, yet (b) imply that the tendency towards guilt is at least somewhat trait-like. On the one hand, guilt is linked to an individual's concrete action (or inaction) and requires a situational context for its manifestation. Thus, guilt is not nebulous or free-floating. On the other hand, there are somewhat stable individual differences in people's tendencies to feel guilt. Guilt felt in one situation is more likely felt under other circumstances as well. These characteristics imply that each question about guilt should be embedded in a situational context; however, the overall assessment should aggregate responses from multiple questions spanning a diversity of such situations.

Third, developmental differences are evident in the conceptualization and measurement of guilt. Definition of guilt is more likely to have an adaptive and reparative component when applied to children (Ferguson et al., 1991; Kochanska et al., 2002; Tangney et al. 1992; Williams & Bybee, 1994; Zahn-Waxler, Kochanska, Krupnick, & McKnew, 1990). Such positive aspects of guilt are less evident in theories and measures developed for older populations. These differences make sense given that studies of socialization and moral development often use these child measures, whereas studies of negative outcomes like depression, anxiety, OCD, and PTSD often use adult measures. We caution that this shift creates real problems for the developmental researcher. Researchers whose work extends from youth into adulthood and readers who attempt to integrate child and adult literatures must be vigilant about the possibility that ostensible developmental changes in guilt may be the result of qualitative changes in the definition and measurement of the construct. In a related vein, the methods used to measure guilt also change with age. Measurement methods switch from the coding of behaviors to predominantly self-report strategies when the target population is about 5 years old. This raises an important question: to what extent do behavioral observations and questionnaires represent the same underlying construct? Only one study used both behavioral and paper-and-pencil methods to assess guilt. Kochanska, DeVet, Goldman, Murray, and Putnam (1994) found modest convergence between their behavioral Doll Paradigm and a mother-report of child guilt. No study has examined the convergence of self-report and behavioral coding measures of guilt. Two critical areas for future research involve (a) establishing the congruence between behavioral and self-report measures of guilt and (b) developing measures of guilt that do not presuppose developmental changes in the nature of the underlying construct.

Fourth, constructs embedded in both definition and measurement of guilt could potentially confound the results of certain lines of investigation. Such constructs include worry, anxiety, sadness, depression, sins, embarrassment, shame, self-punishment, fear, anger, empathy, avoiding gaze, and bodily tension. Inclusion of these features in the definition or measurement of guilt could spuriously inflate estimates of the relations between guilt and other constructs. Such problems may have already affected at least three major areas of research. The first pertains to the relation of guilt to depression. Studies that defined and measured guilt as a painful, maladaptive process tend to discover positive correlations between guilt and depression, whereas studies that regard guilt as an adaptive mechanism tend to discover negative correlations (Bybee et al., 1996; Harder, 1995; Kugler & Jones, 1992b; Tangney, 1991; Tangney et al., 1992; Williams & Bybee, 1994). Second, a similar pattern emerges in research on the relation of guilt to anxiety (Lowe, 1964; Mosher et al., 1980; Niler & Beck, 1989). Lastly, research on the distinction between guilt and shame faces measurement issues. As Tangney (1996) noted, the choice of measure can contribute to conceptual and empirical blurring of the distinction between these constructs. Although the theoretical interrelations between guilt and other constructs should guide and inform research, one must guard against potential measurement confounds. The use of measures that confound guilt per se with the correlates and consequences of guilt should be a great concern to guilt researchers.

Informed by this review and empirical evidence, we tender our own definition of guilt. In our view, guilt is a complex construct that, at its core, has both affective and cognitive components (Kubany, 2006; Watson & Clark, 1991). Guilt involves moral transgressions (real or imagined) in which people believe that their action (or inaction) contributed to negative outcomes. Studies have found links between guilt and morality and behavioral-self blame (Lutwak, Panish, & Ferrari, 2003; Ruma & Mosher, 1967; Tilghman-Osborne, Cole, Felton, & Ciesla, 2008). A sense of responsibility and painful feelings of remorse are part of the guilt experience; however, whether or not atonement or reparations follow guilt is a separate question. Other personality characteristics and various circumstantial factors likely moderate the degree to which guilt actually leads to atonement or reparation. These variants are not universal and should not be built into the definition or measurement of guilt. Likewise, emotional or behavioral problems may be associated with guilt; however, these consequences are not inevitable and should not be built into the guilt construct. We do not regard guilt as inherently trait-like; rather, it is a collection of thoughts and feelings that occurs in response to a specific circumstance for reasons that likely have both trait-like and state-like characteristics. Finally, borrowing heavily from Tangney (Tangney et al., 1992; Tangney & Dearing, 2002) and Janoff-Bulman (1979), we regard guilt as involving behavioral but not necessarily characterological self-blame. In guilt, individuals blame themselves for something they have done or not done. Guilt does not involve the more generalized characterological self-blame, which is more central to the concept of shame.

In the assessment of guilt, we suggest three guiding principles. First, do not use instruments that incidentally assess other constructs. Using words such as *sad*, *depressed*, and *anxious* in the assessment of guilt can inflate estimates of the correlation between guilt and negative emotional outcomes. Conversely, referring to *reparations*, *atonement*, and *empathy* in

measures of guilt can inflate correlations between guilt and various positive outcomes. Second, use explicit measures. Simply asking “How guilty do you feel?” leaves the definition of guilt up to the respondent, potentially muddying the empirical waters. Third, guilt should be measured in context (Tangney, 1996). Each question should inquire about the guilt experience as embedded in a relatively specific event or scenario. The nature of these scenarios should depend upon the goals or hypotheses that drive the assessment. If one is interested in one’s overall potential for guilt, the scenarios might be a collection of widely varying hypothetical events. Alternatively, if the goal is to assess one’s actual recent experience of guilt, the questions should focus on events that have actually happened. The types of events that are represented in the assessment should reflect the domain to which the investigator or clinician wishes to generalize.

Although results of our review are clear, several shortcomings of this approach suggest avenues for future research. First, our review was limited to measures written in English. Some research has suggested that, at its core, guilt is a qualitatively different construct in Asian as opposed to Western cultures (Bedford & Hwang, 2003). Although the factor structure of guilt measures may be comparable across cultures (Johnson et al., 1987), the correlates of guilt may vary by culture (Shaver, Schwartz, Kirson, & O’Connor, 1987). Continued research is needed to understand cultural variations in guilt more completely. Second, we were unable to obtain all measures of guilt. For example, the SCEMAS measure (Stegge & Ferguson, 1994), the My Child-Guilt scale (Ferguson, Stegge, & Barrett, 1996), the Trait-Affect Measure (Bybee, & Williams, 1995), and the Child Guilt Inventory (Bybee, Williams, & Marisca, 1994) were unavailable to us. Future work with all available measures could strengthen findings—especially in younger children. Third, this project merely analyzed measures at the level of their content. Quantitative research is needed to determine if the measures that share content do in fact correlate more highly with each other. One such study does exist (Ferguson & Crowley, 1997), but it included only 3 measures of guilt. Fourth, the guilt assessment methods change qualitatively with the age of the targeted population. Behavioral coding strategies are used to assess guilt in younger children, whereas self-report measures predominate in older children and adults. Multi-method studies are needed to verify that these two methods truly tap the same underlying construct. Lastly, our review does not encompass theological, philosophical, or sociological perspectives on guilt (e.g., Augustine, 1976; Cole, 1971; Kierkegaard, 1944, 2008; Mowrer, 1961; Nietzsche, 1996). Integration of these perspectives with those from psychology could enrich the concept of guilt.

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Fig. 1. Frequency with which guilt codes were characteristic of theoretical definitions of guilt and the corresponding measures of guilt.

Table 1

Coding results for the theoretical definitions of guilt.

Primary author(s)	Moral Tran	Soc Tran	Self	No self	Pub	No Pub	Beh	Adap	Mal	Rem	Rep	Trait	Spec	Pain	Resp	Subtype	Other
<i>Definitions derived from theories primarily pertaining to children and adolescents</i>																	
Barrett	X	X					X			X	X		X		X		s
Williams & Bybee	X	X	X				X	X	X			X					q
Ferguson	X		X				X	X		X	X		X				n
Hoffman	X																t,u
Kochanska	X		X				X	X			X	X					
Tangney	X	X		X			X	X		X	X		X	X			
Zahn-Waxler	X		X					X	X	X					X		
<i>Definitions derived from theories primarily pertaining to adults</i>																	
Alexander		X		X			X	X		X	X		X				
Benniti-McQuoid	X			X			X	X		X	X		X				
Berrios	X		X			X	X	X		X						a,b	
Caprara	X		X							X	X				X	c,d	c
Cheek & Hogan	X					X											
Evans, & Jessup	X	X					X										
Harder & Greenwald	X	X	X				X	X	X	X	X	X	X				
Hoblitzele	X			X			X								X		
Izard		X															o
Johnson & Danko	X	X	X			X	X										
Klass	X		X				X			X							
Kugler & Jones	X							X	X			X	X				
Mosher	X						X							X		e,f,g	p,q
O'Connor	X	X						X	X	X	X	X	X	X	X	h,i,j,k	r,s
Oterbacher & Munz			X						X			X	X			l,m	
Watson & Clark			X									X	X				o

Moral Tran=Moral Transgression, Soc Tran=Social Transgression, Pub=Public/Other, No Pub=No Public/No Other, Beh=Behavior/Activity, Adap=Adaptive, Mal=Maladaptive, Rem=Remorse, Rep=Reparation, Trait=Trait-Like, Spec=Specific, Pain=Painful, Resp=Responsibility.

- a* = Delusional,
- b* = Affective,
- c* = Fear of Punishment,
- d* = Need for Reparation,
- e* = Hostility,
- f* = Sex,
- g* = Guilty-Conscience,
- h* = Survivor,
- i* = Separation,
- j* = Omnipotent Responsibility,
- k* = Self-Hate,
- l* = State,
- m* = Trait,
- n* = Not Fear of Punishment,
- o* = Not Expounded Upon,
- p* = Self-Punishment,
- q* = Inhibitory,
- r* = Fear to Hurt Other,
- s* = Not Avoid Gaze,
- t* = Avoid Gaze,
- u* = Bodily Tension.

Table 2

Percent agreements among 23 theoretical definitions of guilt on 18 codes (organized by the author of the definition).

Author	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Alexander																						
2. Barrett	58.8																					
3. Bennetti	76.5	70.6																				
4. Berrios	47.1	52.9	70.6																			
5. Bybee	58.8	52.9	64.7	64.7																		
6. Caprara	41.2	70.6	64.7	70.6	47.1																	
7. Cheek	41.2	58.8	52.9	70.6	58.8	64.7																
8. Evans	58.8	76.5	58.8	64.7	76.5	58.8	82.4															
9. Ferguson	58.8	76.5	82.4	76.5	64.7	70.6	70.6	76.5														
10. Harder	70.6	64.7	58.8	52.9	88.2	47.1	47.1	64.7	64.7													
11. Hoblitzelle	58.8	64.7	70.6	64.7	52.9	70.6	70.6	76.5	64.7	41.2												
12. Hoffman	41.2	58.8	52.9	58.8	58.8	64.7	88.2	82.4	70.6	47.1	70.6											
13. Izard	64.7	58.8	52.9	58.8	58.8	64.7	76.5	82.4	58.8	47.1	70.6	76.5										
14. Johnson	47.1	64.7	47.1	64.7	76.5	58.8	70.6	88.2	64.7	64.7	64.7	70.6	70.6									
15. Klass	47.1	64.7	70.6	88.2	64.7	82.4	70.6	76.5	76.5	52.9	76.5	70.6	70.6	76.5								
16. Kochanska	52.9	58.8	64.7	70.6	82.4	64.7	64.7	70.6	82.4	82.4	58.8	64.7	52.9	70.6	70.6							
17. Kugler	58.8	52.9	58.8	52.9	76.5	47.1	70.6	64.7	64.7	76.5	52.9	70.6	58.8	52.9	52.9	70.6						
18. Mosher	52.9	58.8	64.7	70.6	58.8	64.7	76.5	82.4	70.6	47.1	82.4	76.5	76.5	70.6	82.4	64.7	58.8					
19. Oconnor	58.8	52.9	47.1	29.4	52.9	47.1	35.3	41.2	41.2	64.7	41.2	35.3	47.1	41.2	29.4	47.1	64.7	47.1				
20. Otterbacher	47.1	52.9	47.1	52.9	64.7	58.8	70.6	64.7	52.9	64.7	52.9	70.6	70.6	64.7	64.7	70.6	76.5	58.8	41.2			
21. Tangney	76.5	70.6	88.2	58.8	47.1	52.9	41.2	58.8	70.6	58.8	58.8	41.2	52.9	47.1	58.8	52.9	47.1	64.7	58.8	35.3		
22. Watson	47.1	52.9	47.1	64.7	64.7	70.6	82.4	76.5	64.7	52.9	64.7	82.4	82.4	76.5	76.5	70.6	64.7	70.6	29.4	88.2	35.3	
23. Zahn-Waxler	52.9	58.8	64.7	70.6	58.8	88.2	52.9	47.1	70.6	58.8	58.8	52.9	52.9	47.1	70.6	64.7	58.8	52.9	58.8	47.1	52.9	58.8

Table 3

Coding results for the empirical measures of guilt.

Primary author(s)	Measure	Moral Tran	Soc Tran	Self No self	Pub	No Pub	Beh	Adap	Mal	Rem	Rep	Trait	Spec	Pain	Resp	Subtype	Other Spec Char
<i>Measures designed for use with children and adolescents</i>																	
Barrett	Doll Paradigm		X		X		X			X	X		X		X		
Hoffman	Stories	X	X	X			X		X		X	X	X		X		x
Kochanska,	My Child Guilt	X			X		X		X			X	X		X		
Kochanska,	Doll Paradigm		X		X		X						X		X		tu
Tangney	TOSCA-A	X	X				X	X		X	X	X	X		X		z
Tangney	TOSCA-C	X	X		X		X	X		X	X	X	X		X		+
Tangney	SSGS	X					X			X			X				
Zahn-Waxler	CIIDC	X					X	X		X		X	X		X		
<i>Measures designed for use with adults</i>																	
Alexander	SGS	X	X			X	X					X	X		X		
Benetti-McQuoid	GSV	X	X			X	X					X	X				
Berrios	FGMD	X			X		X				X		X		X		v,w
Caprara,	FPNP	X	X		X		X			X	X	X	X	X	X		x,y
Cheek & Hogan	Guilt & Shame	X	X	X			X					X	X				
Evans, & Jessup	RI	X	X		X		X					X	X		X		
Harder & Greenwald	PFQ-2		X				X			X		X			X		z
Hoblitzele	ASGS	X		X						X		X			X		
Izard	DES-IV	X					X					X			X		
Johnson	DCQ	X	X			X	X					X	X				
Klass	SGS	X	X	X	X		X			X	X	X	X		X		v
Kugler & Jones	GI	X		X			X		X	X		X	X				z
Mosher	RMFCGI	X	X	X	X		X		X	X		X	X		X	e,f,g	p,x
O'Connor	IGQ	X	X	X	X		X		X			X				h,i,j,k	$x,z,\#$
Otterbacher & Munz	PGI											X	X			l,m	
Tangney,	TOSCA-3	X	X			X	X	X		X	X	X	X		X		
Watson & Clark	PANAS-X			X									X		X		v,\$

Meas.=Measure, Moral Tran=Moral Transgression, Soc Tran=Social Transgression, Pub=Public/Other, No Pub=No Public/No Other, Beh=Behavior/Activity, Adap=Adaptive, Mal=Maladaptive, Rem=Remorse, Rep=Reparation, Trait=Trait-Like, Spec=Specific, Pain=Painful, Resp=Responsibility.

SGS=Shame and Guilt Scale, GSV=Guilt and Shame Vignettes, FGMD=Feelings of Guilt in Major Depression, FPNR=Fear of Punishment and Need for Reparation scales, RI=Reaction Inventory, PFQ-x=Personal Feelings Questionnaire-x, ASGS=Adapted Shame/Guilt Scale, DES-IV=Differential Emotion Scale-IV, DCQ=Dimensions of Consciousness Questionnaire, SGS=Shame and Guilt Scale, GI=Guilt Inventory, RMFCGI=Revised Mosher Forced-Choice Guilt Inventory, IGQ=Interpersonal Guilt Inventory, PANAS-X=Positive and Negative Affect Scale-Extended, CIIDC=Children's Interpretations of Interpersonal Distress and Conflict, TOSCA-C=Test of Self-Conscious Emotions-Child, TOSCA-3=Test of Self-Conscious Affect-3, TOSCA-A=Test of Self-Conscious Affect-Adolescent, SSGS=State Shame and Guilt Scale.

- a = Delusional,
- b = Affective,
- c = Fear of Punishment,
- d = Need for Reparation,
- e = Hostility,
- f = Sex,
- g = Guilty-Conscience,
- h = Survivor,
- i = Separation,
- j = Omnipotent Responsibility,
- k = Self-Hate,
- l = State,
- m = Trait,
- n = Not Fear of Punishment,
- o = Not Expounded Upon,
- p = Self-Punishment,
- q = Inhibitory,
- r = Fear to Hurt Other,
- s = Not Avoid Gaze,
- t = Avoid Gaze,
- u = Bodily Tension,

v = shame,
 w = sins,
 x = sad/depressed,
 y = embarrassed,
 z = worried/anxious,
 $\#$ = afraid,
 $\$$ = anger,
 $+$ = empathy.

Table 4

Percent agreements among 25 measures of guilt on 18 codes (organized by the author of the measure).

Author	1	2	3	4	5	6	7	8	9	10	11	12
1. Alexander												
2. Barrett	58.8											
3. Bennetti	88.2	47.1										
4. Berrios	70.6	76.5	58.8									
5. Capra	64.7	70.6	64.7	70.6								
6. Cheek	88.2	47.1	88.2	58.8	52.9							
7. Evans	94.1	64.7	82.4	76.5	70.6	82.4						
8. Harter	76.5	70.6	64.7	58.8	64.7	64.7	70.6					
9. Hoblitzelle	64.7	47.1	52.9	58.8	41.2	64.7	58.8	64.7				
10. Hoffman	70.6	52.9	70.6	64.7	70.6	70.6	64.7	58.8	58.8			
11. Izard	76.5	58.8	64.7	70.6	64.7	64.7	70.6	88.2	76.5	58.8		
12. Johnson	94.1	52.9	94.1	64.7	58.8	94.1	88.2	70.6	58.8	64.7	70.6	
13. Klass	76.5	70.6	64.7	70.6	76.5	76.5	82.4	64.7	52.9	70.6	64.7	70.6
14. Kochanska1	70.6	64.7	58.8	76.5	70.6	58.8	76.5	70.6	58.8	64.7	82.4	64.7
15. Kochanska2	76.5	82.4	64.7	82.4	64.7	64.7	82.4	76.5	52.9	58.8	64.7	70.6
16. Kugler	64.7	47.1	64.7	58.8	52.9	76.5	58.8	64.7	64.7	70.6	76.5	70.6
17. Mosher	70.6	52.9	70.6	52.9	70.6	70.6	76.5	58.8	47.1	76.5	58.8	64.7
18. Oconnor	58.8	41.2	70.6	52.9	58.8	70.6	64.7	58.8	58.8	76.5	58.8	64.7
19. Otterbacher	70.6	52.9	70.6	64.7	47.1	70.6	64.7	70.6	70.6	52.9	70.6	76.5
20. Tangney1	76.5	58.8	76.5	58.8	76.5	64.7	70.6	64.7	41.2	70.6	64.7	70.6
21. Tangney2	70.6	64.7	70.6	64.7	82.4	58.8	64.7	70.6	47.1	76.5	70.6	64.7
22. Tangney3	64.7	70.6	64.7	70.6	88.2	52.9	70.6	64.7	41.2	70.6	64.7	58.8
23. Tangney4	64.7	58.8	76.5	70.6	64.7	64.7	58.8	64.7	52.9	58.8	76.5	70.6
24. Watson	64.7	58.8	52.9	70.6	41.2	64.7	58.8	64.7	76.5	58.8	64.7	58.8
25. Zahn-Waxler	76.5	58.8	64.7	70.6	64.7	64.7	70.6	76.5	64.7	58.8	88.2	70.6

Measure	13	14	15	16	17	18	19	20	21	22	23	24
14. Kochanska1	70.6											
15. Kochanska2	64.7	70.6										
16. Kugler	64.7	82.4	52.9									
17. Mosher	82.4	76.5	58.8	70.6								
18. Oconnor	58.8	64.7	58.8	70.6	76.5							
19. Otterbacher	47.1	64.7	70.6	70.6	41.2	52.9						
20. Tangney1	76.5	58.8	52.9	52.9	70.6	47.1	47.1					
21. Tangney2	70.6	64.7	58.8	58.8	64.7	52.9	52.9	94.1				
22. Tangney3	76.5	70.6	64.7	52.9	70.6	58.8	47.1	88.2	94.1			
23. Tangney4	52.9	70.6	64.7	76.5	58.8	58.8	70.6	64.7	70.6	64.7		
24. Watson	52.9	58.8	76.5	64.7	47.1	47.1	82.4	41.2	47.1	41.2	64.7	
25. Zahn-Waxler	64.7	82.4	64.7	76.5	58.8	47.1	70.6	76.5	82.4	76.5	76.5	64.7

Table 5

Estimates of conceptual correspondence between measures of guilt and the guilt definitions from which they derived.

Author	Measure	Total no. of codes ascribed to author's theory (denominator) also assigned to corresponding measure (numerator)	Total no. of codes assigned to measure (denominator) also ascribed to author's corresponding theory (numerator)	Total no. of codes ascribed to both theory and measure (numerator) out of 17 possible codes (denominator)
Alexander	SGS	4/9 (44.4%)	4/8 (50.0%)	8/17 (47.1%)
Barrett	Doll	6/8 (75.0%)	6/7 (85.7%)	14/17 (82.4%)
Bennitti	GSV	5/9 (55.6%)	5/8 (62.5%)	10/17 (58.8%)
Berrios	FGMD	3/8 (37.5%)	3/7 (42.9%)	8/17 (47.1%)
Caprara	FPNR	6/7 (85.7%)	6/12 (50.0%)	10/17 (58.8%)
Cheek	GS	3/3 (100%)	3/8 (37.5%)	12/17 (70.6%)
Evans	RI	4/4 (100%)	4/9 (44.4%)	12/17 (70.6%)
Harder	PFQ-2	4/10 (40.0%)	4/6 (66.7%)	9/17 (52.9%)
Hoblitzelle	ASGS	2/6 (33.3%)	2/4 (50.0%)	11/17 (64.7%)
Hoffman	Stories	1/1 (100%)	1/11 (9.1%)	7/17 (41.2%)
Izard	DES-IV	1/3 (33.3%)	1/6 (16.7%)	10/17 (58.8%)
Johnson	DCQ	4/6 (66.6%)	4/7 (57.1%)	12/17 (70.6%)
Klass	SGS	5/6 (83.3%)	5/12 (41.7%)	9/17 (52.9%)
Kochanska	My Child-G	4/7 (57.1%)	4/9 (44.4%)	9/17 (52.9%)
Kochanska	Doll	2/7 (28.6%)	2/6 (33.3%)	8/17 (47.1%)
Kugler	GI	5/6 (83.3%)	5/8 (62.5%)	13/17 (76.5%)
Mosher	MFCGI	4/5 (80.0%)	4/13 (30.8%)	7/17 (41.2%)
O'Connor	IGQ	7/12 (58.3%)	7/9 (77.8%)	10/17 (58.8%)
Otterbacher	PGI	3/4 (75.0%)	3/3 (100%)	16/17 (94.1%)
Tangney	TOSCA-3	9/11 (81.8%)	9/12 (75.0%)	12/17 (70.6%)
Tangney	TOSCA-A	9/11 (81.8%)	9/11 (81.8%)	13/17 (76.5%)
Tangney	TOSCA-C	9/11 (81.8%)	9/12 (75.0%)	11/17 (70.6%)
Tangney	SSGS	6/11 (54.5%)	6/6 (100%)	12/17 (70.6%)
Watson	PANAS-X	2/2 (100%)	2/4 (50.0%)	15/17 (88.2%)
Zahn-Waxler	CIIDC	5/9 (55.6%)	5/8 (62.5%)	10/17 (58.8%)
Average		(67.7%)	(56.3%)	(63.3%)