The Experience of Depth Curiosity: The Pursuit of Congruence Despite the Danger of Engulfment

Heidi M. Levitt[a]; Daniel C. Williams[a]; Ayse Ciftci Uruk[a]; Divya Kannan[a]; Maki Obana[a]; Brandy L. Smith[a]; Mei-Chuan Wang[a]; Laura W. Plexico[a]; Jonathan Camp[a]; Heather Hardison[a]; Anasa Watts[a]; Wendy J. Biss[a]

[a] The University of Memphis, Memphis, Tennessee, USA

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THE EXPERIENCE OF DEPTH CURIOSITY: THE PURSUIT OF CONGRUENCE DESPITE THE DANGER OF ENGULFMENT

HEIDI M. LEVITT, DANIEL C. WILLIAMS, AYSE CIFTCI URUK, DIVYA KANNAN, MAKI OBANA, BRANDY L. SMITH, MEI-CHUAN WANG, LAURA W. PLEXICO, JONATHAN CAMP, HEATHER HARDISON, ANASA WATTS, and WENDY J. BISS

The University of Memphis, Memphis, Tennessee, USA

This article presents a grounded theory analysis of the experience of sustaining an abiding curiosity. Results emphasize how curiosity became inherently motivating and pleasurable, and led to deeper understandings of interpersonal differences and an enriched sense of identity. Despite the experience of curiosity strengthening, waning, and shifting across time, it was experienced as a longstanding driving force. At the same time, if consuming, curiosity holds risks for participants and could lead to alienation from others and despair. The discussion puts forward a more integrated understanding of a somewhat fragmented literature and highlights the complexities that depth curiosity entails.

The experience of curiosity has been studied in relation to a myriad of topics, including personal growth (e.g., Kashdan, Rose, & Fincham, 2004), education (e.g., Burns & Gentry, 1998), job performance (e.g., Reio & Callahan, 2004), and psychotherapy (e.g., Ofer & Druban, 1999). Loewenstein (1994) provided a detailed review of the writings on curiosity. Herein, a review of some main dimensions that arise within these works is presented to illustrate the different meanings that the construct "curiosity" can entail and to provide a context for understanding how longstanding specific curiosities (the wanting to understand or know more about a certain topic) are experienced.

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State Curiosity and Trait Curiosity

It has been debated whether curiosity should be understood as a permanent characteristic (i.e., a trait) or as only arising in response to situational demands (i.e., a state characteristic). Berlyne (1954) argued that curiosity arose only within specific situations. Loewenstein (1994) supported this view by citing the difficulty researchers have had in supporting a trait form of curiosity once other demographic variables were controlled. Other researchers, such as Kashdan et al. (2004), disagreed with this interpretation. They argued that curiosity should be studied as a trait characteristic because it has an intrinsically reinforcing quality that, once experienced, likely continues.

Most current researchers appear to view the construct of curiosity as containing both situational and trait elements (Ben-Zur, 2002; Boyle, 1983, 1989; Collins, Litman, & Spielberger, 2004; Giambra, Camp, & Grodsky, 1992; Reio & Callahan, 2004; Reio & Wiswell, 2000). Some consensus is evident as well in the use of curiosity measures (e.g., Olson, 1986; Spielberger, 1983) that have been developed to assess both state and trait curiosity (e.g., Byman, 2005; Reio & Callahan, 2004).

Depth and Breadth Curiosity

Researchers have also debated whether curiosity is better defined according to dimensions of depth and breadth. Initially, researchers sought to highlight this distinction using the terms *specific curiosity*, the tendency to explore a single interest, and *diversive curiosity*, the tendency to seek out novelty in general. Relating this idea to the state-trait dimension previously described, Langevin (1971) proposed that, although breadth curiosity may reflect a personality characteristic, depth curiosity may reflect a motivational state. According to Boyle (1989), however, Langevin later regretted making this claim as he came to believe that his *method* of measuring depth–breadth curiosity was generating this distinction.

In the 1980s and 1990s, researchers sought to refine this depth–breadth distinction by revising quantitative measures to assess these dimensions of curiosity. Although these researchers developed factor analytic support for this distinction (e.g., Ainley,

1987), they met with criticism from Boyle (1989), whose analyses supported the idea that the depth–breadth dimension should be subsumed by a global state–trait distinction. Loewenstein (1994) recommended only the study of depth curiosity because he viewed breadth curiosity as more reflective of boredom and sensation-seeking than true curiosity. This debate continues today, as some researchers have found renewed support for the depth–breadth distinction using factor analytic methods (e.g., Byman, 1993; Kashdan et al., 2004). Scholarly interest in this dimension appears to be on the rise again.

Epistemic (Cognition) Curiosity and Perceptual (Emotion) Curiosity

The terms *epistemic* and *perceptual curiosity* were introduced by Berlyne (1954), who defined epistemic curiosity (EC) as curiosity motivated by a lack of knowledge and perceptual curiosity (PC) as motivated by a sensory stimulation or need. Berlyne believed EC was limited to humans, whereas PC would occur within animals and was too basic to motivate human curiosity. More recently, authors (e.g., Byman, 2003; Reio & Callahan, 2004) have described EC in terms of a connection between cognition and curiosity, although PC has been described as a curiosity connected to emotional needs. Similarly, Wohlwhill (1987) coined the terms *inspective* and *affective curiosity* that refer to this distinction between cognitive responses to reduce conflict or uncertainty and those motivated by enjoyment or pleasure.

Of the two types of curiosity, EC historically has garnered the most support and interest (e.g., Loewenstein, 1994). However, most contemporary theorists have extended their understanding of curiosity to PC, as well (e.g., Byman, 2003; Collins et al., 2004; Litman & Spielberger, 2003; Reio & Callahan, 2004). These researchers hold that curiosity serves both perceptual and epistemic functions, and that it is unnecessarily limiting to separate the cognitive from the emotional element (e.g., Reio & Callahan, 2004). Scales have been developed to assess EC and PC (Collins, 1996; Litman & Spielberger, 2003), and researchers have found factor analytic support for both EC and PC dimensions (e.g., Byman, 2003). With the aid of these new measures, the ways in which

these types of curiosity relate to one another are beginning to be explored.

Involuntary Drive and Intrinsic Motivation

Another debate concerns the underlying causes of curiosity: Does curiosity come from an involuntary drive or from an intrinsic motivation? According to Loewenstein (1994), early- to mid-twentieth-century scholarship on curiosity described an internal curiosity drive, understood in either Freudian or behaviorist terms. These various drive theories proposed that curiosity was an aversive experience that would intensify until a need for stimulation was satisfied. Berlyne (1960) explicitly proposed that this curiosity drive was stimulated externally by complex, novel, and surprising factors. Other theorists postulated that curiosity arises from an internal drive to satisfy what cannot be explained (Beswick, 2000; Loewenstein, 1994) or controlled (Swann, Stephenson, & Pittman, 1981). These drive theories shared the understanding that curiosity arises to quell some *aversive* arousal or anxiety.

Other researchers have disagreed, arguing that curiosity is itself a *pleasurable* experience that is intrinsically motivating. Based on exploratory and confirmatory factor analysis, Kashdan et al. (2004) recently proposed that curiosity is "associated with positive subjective experiences; positive evaluations of the self, world, and future . . . and self-determined tendencies to recognize, pursue, and thrive in pleasure, excitement, and challenge" (p. 301). In contrast to drive theories, which describe anxiety as a trigger for curiosity, intrinsic motivation theorists have found that anxiety acts to reduce curiosity (Kashdan & Roberts 2004; Reio & Callahan, 2004). Litman and Jimerson (2004), interested in the distinction between curiosity that is motivated by pleasure and curiosity that results from unpleasant uncertainty, recently developed a measure to assess curiosity as a feeling of deprivation. However, no general consensus about the cause of curiosity yet exists.

Curiosity as Embodiment of "Man the Scientist"

The notion of curiosity seems to permeate many humanistic and constructivist writings. In these approaches, people are thought

to be intrinsically motivated to better understand themselves. In George Kelly's (1955) classic text on personal construct theory, he described psychology as "the study of thinking behavior" (p. 15) and writes that "whatever is characteristic of thought is descriptive of the thinker; that the essentials of scientific curiosity must underlie human curiosity in general" (p. 16). Kelly described humans as essentially driven by this scientific curiosity to learn to anticipate events. The process of developing, refining, and organizing one's construct system is driven by this curiosity about events, which allows people to better predict their future. Neimeyer (1987) used the phrase *an elaborative attitude* to describe how people actively seek to expand on this system. Although Rogers (1961) did not use the word "curiosity," he appeared to understand self-actualization as motivated by a desire for deeper knowledge. He described the self-actualization tendency as evident in the capacity of an individual to develop

> an understanding which probes beneath his conscious knowledge of himself into those experiences which he has hidden from himself because of their threatening nature. . . . It is the mainspring of life, and is, in the last analysis, the tendency upon which all psychotherapy depends. (Rogers, 1961, p. 35)

As the quest for deeper understanding about oneself is foundational for psychological development in both constructivist and humanistic approaches, the experience of curiosity in general might be of specific interest to theorists in these groups.

Study Objectives

Although general consensus has been reached on some dimensions of curiosity, competing theories remain for others. In addition, research has yet to address the lived experience of a sustained curiosity, instead focusing on the components or types of curiosity. This qualitative approach aims to examine the ways people who experience specific curiosities understand and experience curiosity in their lives. This approach may be helpful in reconciling disparate theories on different aspects of curiosity. Such an examination may shed light on some of the quandaries in the present literature.

Method

Participants

INTERVIEWEES

Six men and five women who self-reported having a specific curiosity were interviewed for this study. Participants were recruited through flyers posted at a university and in the community and via word of mouth. To participate in this study, participants had to be over 18 years of age, report that they had a sustained (for at least one year) and current experience of wanting to understand or know more about a topic that was meaningful to them, and have been actively engaged in activities to learn more during this period. There was no restriction placed on whether the curiosity took form within a hobby or a career.

Because these criteria were clear in our advertisement, none of the prospective interviewees was rejected. Participants were between the ages of 25 and 56 ($M = 37$, $SD = 10.64$) and lived in Memphis, Tennessee, at the time of the interview (see Table 1 for participant demographics). The participants were diverse in the topic and duration of their curiosity, as well as in age, ethnicity, occupation, and gender. This variation in participants is optimal within a grounded theory analysis, because a model developed from a diverse sample may represent a broader range of experiences (see Patton, 1990, on maximal variation). They reported being actively engaged in some topic of curiosity, having spent, on average, 11.8 years ($SD = 7.25$) interested in that topic and 12.50 hours a week ($SD = 8.25$) in pursuit of this curiosity.

RESEARCHERS

The research team included a psychologist and 11 graduate students in psychology, speech pathology, and communication. The project was initiated as part of a class on qualitative research methods, in which the students became a research team. Although the research team lacked a theory of curiosity at the beginning of this study, the group members shared a general interest in understanding how curiosity is experienced in people's lives. The two primary investigators were interested in curiosity because of their prior research on psychotherapy process. In their findings from interview-based research on eminent psychotherapists

TABLE 1 Participant demographics

Age	Gender	Topic	Years of curiosity	Hours per week	Ethnicity	Occupation
38	F	Language	22	20	Caucasian	Professor
54	M	Urban development	>20	14	Caucasian	English instructor
32	M	World politics	6	7.5	Caucasian	Contractor
56	F	Women	10	20	African American	Vocational evaluator
46	F	Communication within deaf community	1	7	Caucasian	Student
25	F	Religions	18	4	Caucasian	Food service
29	M	Astrology	9	7	Caucasian	Retail sales
36	M	Hunting	>10	10	African American	Driver
28	M	History	24	3	Asian Indian	Software programmer
35	F	Child counseling	8	30	Caucasian	Student
28	M	Computers	10	15	Caucasian	Biomedical engineer

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(Williams & Levitt, 2007), it was found that clients' curiosity about their own experience was foundational to psychotherapy. When it was lacking, psychotherapists' priority became to help clients become curious about their experience through exercises and guided discussion. This finding sparked the researchers' interest in how curiosity about any topic is developed and maintained.

Procedure

RECRUITMENT

Participants were recruited through either personal contacts of the researchers or by flyers posted on campus and in the community. Inclusion criteria demanded that participants (a) had a strong curiosity about a specific topic, (b) had spent at least one year exploring their topic of curiosity, (c) were 18 years of age or older, and (d) experienced their topic of curiosity as something that was meaningful and important in their lives. Participants were offered $10 in compensation for their time.

INTERVIEWING

Each of the graduate-student members of the research team conducted one interview with a participant. The interviews were conducted in a quiet location that was agreed upon by the participant and interviewer. Each of the interviewers received training in qualitative interviewing prior to conducting the interview. The semistructured interviews were audio-taped and were approximately 1 to 2 hours in duration. The primary question put forward to the participants was, "Describe your experience of strong curiosity." In terms of prompts, participants were asked to describe the topic of their curiosity, the development of the curiosity, whether there were advantages or disadvantages to the curiosity, and whether curiosity had influenced their personal or professional lives.

GROUNDED THEORY

An adapted form of Glaser and Strauss's (1967) grounded theory method of analysis was used to analyze the participants' experience of strong curiosity (see Rennie, Philips, & Quataro, 1988). Rennie (2000) argued that this adaptation of the method

is more consistent with the epistemology of grounded theory as understood within methodical hermeneutic than approaches to grounded theory from a realist perspective. This epistemology values the process of constructing a depth of understanding by investigators (e.g., developing expert knowledge by investigators immersed in a subject) over a process of achieving consensus on an external reality (e.g., seeking inter-rater reliability by investigators less familiar with a subject).

Initially, the transcripts were broken down by the interviewers into meaning units (MUs; Giorgi, 1970), each containing one main idea. The method of constant comparison was used to compare every MU with every other MU to identify commonalities that could become the basis of a category. MUs were assigned to more than one category where appropriate.

Once initial categories had been established by each interviewer, the research team worked in groups of two or three to form higher-order categories. Each category was compared with the others to identify commonalities, and a smaller number of higher-order categories were formed to reflect shared meanings. This process was repeated until a hierarchy was formed, topped by one "core category" or central finding.

Memos were kept by each of the interviewers throughout the duration of the project. The purpose of the memos was to (a) help the researchers set aside their biases and assumptions, (b) keep track of procedural details and decisions, and (c) record any ideas that would be useful for the generation of theory. On a weekly basis, the research team discussed the process of coding in order to develop consensus within the group. At times of conflict, privilege was accorded to the interpretation of the researcher who conducted the interview under consideration. This process of valuing the lived experience of the interviewing researcher is consistent with a hermeneutic approach to analysis.

Within the grounded theory method, saturation is reached when the addition of new data does not appear to add further categories to the development of the theory. At the point of saturation, data collection is considered complete. In the present study, saturation was considered to have been obtained, as the 10th and 11th transcripts each added only one new category to the analysis at the lower, more concrete, levels of the hierarchy (e.g., the subject of a curiosity) and no theoretical modifications occurred.

CREDIBILITY CHECKS

Three different checks were used to enhance the credibility of this study. Although no credibility check can ensure that all investigator bias is overcome, the use of checks and memoing can help to reduce its influence on data. First, the researchers asked the participants at the conclusion of each interview to assess the thoroughness and accuracy of the data provided and their experience of the interview. These questions provided interviewees with an opportunity to convey any information that may have been withheld or left incomplete.

Second, the researchers sought consensus among one another in the interpretation and generation of the categories and theory. This process of consensus-seeking increases the credibility of the findings by demonstrating that individuals from multiple perspectives agree on the interpretation of findings (e.g., Hill et al., 2005). Consensus was sought in both small data coding groups and weekly team meetings.

Finally, the process of member checking was used by asking the participants for feedback. Each investigator mailed his or her participant a letter describing the highest-order categories and the core category and requesting feedback. The first question asked if the findings accurately *reflected* the types of experiences discussed in the interview. The second asked if the research findings *contradicted* the types of experiences discussed in the interview. Both of the questions were rated on a Likert-type scale, with a rating of "1" indicating "not at all" and a rating of "7" indicating "very much." All 11 participants responded to the first question, and 10 responded to the second question. The mean rating for the first question was 5.95 ($SD = 1.11$), and the mean rating for the second question was 1.85 ($SD = 1.16$). These ratings constitute a strong endorsement that the overall research findings were consistent with the interviewees' experiences.

Results

The hierarchy contained nine layers and 727 MUs. The following terminology is used to differentiate the levels of the hierarchy in this article: The *core category* is the highest layer and subsumed five clusters. The *clusters* contained 23 *categories*, which in turn

consisted of 54 *subcategories*. In this section, each cluster is discussed in turn, providing descriptions based on the categories and the subcategories it subsumed, followed by a description of the core category. Table 2 presents a description of the categories in each cluster and the numbers of participants who contributed MUs to each category. Participants' numbers (assigned randomly) will be presented following quotes from their interview transcript (e.g., "P 03").

Cluster 1: Curiosity Provides an Intense and Pleasurable Gratification, Except When Questions Become Too Overwhelming and Then I Feel Stifled or Helpless

This cluster was composed of four categories and contained MUs from all participants. For most participants ($N = 7$), curiosity was described as an inherently reinforcing and rewarding experience. One participant said, "That's the whole point [the intrinsic reward]. The whole point about curiosity, I feel, is *not* about whether people perceive you to be a curious person and gain some respect for you" (P 03).

Some participants ($N = 3$) also experienced curiosity as an emotionally compelling force. One of the participants described this sense: "I'm assuming that curiosity and passion are sort of—they go hand and hand. It's not that you're always passionate about something your curious in, but it helps if you are" (P 07). Although most of the participants did not use this term, all evidenced some degree of passion as they discussed their curiosities.

For most of the participants ($N = 8$), however, the experience of curiosity also could result in great intellectual discomfort when it became too consuming. They then would begin to invest more time than they wanted to, which impinged on other areas of their lives. They reported worrying at these times that the pursuit could be endless or might not be fruitful: "When frustration reaches a level where you feel you *cannot* get *any* more information about it, or the process of curiosity is just *going* nowhere for me. It's like 'Why am I so curious about it?'" (P 03).

Some of these participants ($N = 4$) relayed that their curiosity became almost relentless at times. For instance, one participant

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TABLE 2 Titles of Clusters and Categories

Cluster Title	(N)*	Categories	(N)*
1. Curiosity Provides an Intense and Pleasurable Gratification, Except When Questions Become Too Overwhelming and Then I Feel Stifled or Helpless	11	– Curiosity is a reinforcing and rewarding experience.	10
		– Curiosity is an emotionally compelling passion.	3
		– Curiosity leads to intellectual discomfort by being consuming and relentless.	9
		– Curiosity can lead to fear, frustration, and helplessness.	6
2. Curiosity Is a Uniting Force Interpersonally, Except When It Is So Engulfing That It Disrupts Communication	11	– Personal experience and important other influences led to curiosity.	9
		– Curiosity facilitates interpersonal relationships and allows me to help others.	11
		– Curiosity helps me relate to others and to be interested in their experience.	9
		– Curiosity as manipulating social relationships	2
		– Curiosity facilitates career.	7
		– Curiosity helps in cultural situations.	3
		– Curiosity leads to interpersonal problems by disrupting work and social interactions.	7
3. Curiosity Acts to Resolve Emotionally-Relevant Incongruence Either Within the Self or in Interpersonal Differences	11	– Curiosity is reconciling a difference with others.	6
		– Negative emotions led to curiosity: trying to avoid being hurt and protecting self from possible disappointment.	6
		– Discontinue curiosity due to life situation change or negative emotions associated with curiosity	4
4. My Curiosity Prompts Me to Understand New Aspects of Myself, Which Leads to Increased Self-Worth and Personal Growth	11	– Curiosity leads to emotional awareness.	1
		– Curiosity leads to spiritual awareness.	2
		– Curiosity increases understanding of values and principles.	5
		– Curiosity increases self worth or personal growth in some way.	6
		– Curiosity defines self-identity.	8
5. Both the Process and Content of Curiosity Can Evolve Across My Lifespan, yet I Have a Longstanding Internal Sense of Curiosity	11	– Curiosity related to childhood experiences	7
		– Curiosity longstanding personality trait	2
		– Curiosity is about seeking knowledge.	11
		– Curiosity actively motivates learning.	4

*N = The number of participants out of 11 whose units contributed to the cluster or category.

described,

> It's always very exciting I think, almost to the point where it can exhaust you. Um, there will be times where I'll be breaking down a chart and hitting the books . . . pushing to the point that I won't have any energy anymore. . . . I wouldn't say that it's all consuming, that's a little dramatic, but it's pretty close to that. (P 11)

These participants described feeling emotions such as anger, fear, and helplessness when the curiosity was not rewarded ($N = 6$). One participant described this process:

> Anger sets in at that stage of curiosity when I get too much information or I do not get any information, or I get irrelevant information. . . . It's a need that, when not satisfied, sparks off an emotion within me. And it basically stems from the fact that, if I feel I'm a person who gets what I want, and I'm not getting what I want, then it causes frustration. The frustration really causes my anger. (P 03)

Despite these negative emotions, however, none of the participants reported abandoning the curiosity permanently.

Cluster 2: Curiosity Is a Uniting Force Interpersonally, Except When It Is So Engulfing That It Disrupts Communication

All of the participants ($N = 11$) reported that curiosity was generally beneficial in their lives, and particularly so in their interpersonal relationships. For most ($N = 9$), their curiosity was encouraged by family members, coworkers, or friends. Engaging in curiosity with others reportedly enhanced the experience of curiosity and forged relational bonds. One participant noted, "As I find more people who also have this curiosity, or fetish [*laughs*] . . . we'll be able to sort of play off each other, get that synergy going" (P 08). For a few of the participants ($N = 2$), an additional interpersonal benefit of curiosity was entrance into a formal community of like-minded others.

The participants ($N = 11$) also reported that their experience of curiosity allowed them to help other people and heightened their awareness of others' needs. For example, one woman described the motivation behind her curiosity:

> [I want to learn to help women] believe that they can do what they want to do, believe that they have a right to do whatever it is they want to do,

and that they are second to nobody. Therefore, they can pass it along to their kids and improve their lives by helping them to believe more in themselves. (P 02)

In this way, curiosity could serve altruistic ends and helped to improve others' lives.

Many participants ($N = 9$) were pleased that their curiosity led them to be more interested in others' experiences. One described this phenomenon in this way:

It's [i.e., curiosity has] influenced my life. . . . [I have] actually befriended people I never would have wanted to talk to before because I always thought they were close-minded, and horrible. . . . I had to kind of realize was that *I* was [being] those things . . . and so I try now not to be so self-righteous and so judgmental. (P 05)

Engaging in curiosity led to the recognition that others were similar to oneself; that, in turn, led to a more empathic style of relating.

A few participants ($N = 2$) described an instrumental form of curiosity that might allow them to manipulate social relationships. For example, "Sometimes it's about wanting to be friends with someone. It can be as base as getting in someone's pants, to be honest about that" (P 02). In this way, a curiosity might be developed to gain social influence over others, but these instrumental curiosities were not described with the same level of investment or duration as the more intrinsically driven curiosities.

A further interpersonal benefit described by participants ($N = 3$) was an improvement in intercultural relations. An Asian Indian man, new to America, described his experience: "Say you're talking to a group of people who are completely from a different culture, okay? You being curious gives you a sensitivity and respect of some sort" (P 03). Experiencing curiosity primed these participants to be more open and attuned to differences and to attempt to understand rather than to condemn difference.

In addition, many participants ($N = 7$) reported that experiencing curiosity assisted them in their careers. "Having this knowledge that I gained from this curiosity of how things work has made me more capable using a computer" (P 09). Some selected

careers that focused on their curiosity and allowed them to pursue it full-time.

Despite these many interpersonal benefits, many participants ($N = 7$) described occasions when curiosity was detrimental. These impediments often occurred when participants became overly focused on the curiosity, and it began to disrupt their employment and social interactions. For example, one participant recounted that his curiosity led him to question his employer's practices and resulted in his having to resign. Another described how his curiosity separated him from others: "It [curiosity] gives you a sense of superiority. It helps you feel that you know a lot more than other people. So, there is a kind of a delta that you create between yourself and others. . . . I know it's not a great thing" (P 03).

Pursuing curiosity also was described as carrying a cost in terms of ruptured interpersonal relations when the participants did not realize that others might find their curiosity threatening or did not share the same interests.

Cluster 3: Curiosity Acts to Resolve Emotionally Relevant Incongruence Either Within Myself or in Interpersonal Differences

The experience of curiosity provided interpersonal benefits by structuring some common purpose or by increasing openness to others, but it specifically appeared to become engaged when there was some emotionally charged sense of incongruence. Several participants ($N = 6$) reported that their curiosity was derived from attempts to reconcile a difference within themselves or between themselves and others. For instance, one (P 06) described such a curiosity about the experience of being deaf. Strong feelings of empathy for others sometimes led to experiences of curiosity.

In addition to being stirred by differences with particular others, the feeling of incongruence could occur between oneself and the world at large. One participant stated,

> A lot of my curiosity is driven by my idealism. . . . When I see something happening that isn't right, I truly question it, and my liberal, democratic self at that point wants to change [it]. . . . Oftentimes, I'm powerless to do that, but I'm not powerless to understand it, so that drives my curiosity. (P 01)

This bafflement at the choices made by others moved participants to better understand others. Being curious could be seen as a movement toward the incomprehensible other.

Another participant described his engagement with curiosity as being stimulated by the process of evaluating contrasting forms of thought against his own ideas:

> When you start to see that the information that you've been given about . . . any topic isn't right, and then you find out something that is a little more accurate. . . . It's like a Pandora's Box; it really opens a lot. . . . You're like, "Oh, wow!" . . . There are a lot of different ways of doing [things]. (P 08)

Difference from others that leads to isolation, however, could act to reduce the engagement with curiosity. For instance, an interviewee shared these remarks: "There are few people in my field that I can have the kind of stimulating conversation about my specific area of interest. So that's isolating. And that takes a toll on curiosity. . . . [My extended family] don't really understand what I do" (P 07). Interpersonal difference motivated curiosity when it promised to increase understanding closeness, but not when it threatened this outcome.

Although sometimes this disconcertion was interpersonal ($N = 6$), participants' curiosity also could be motivated by internal negative feelings, such as hurt, isolation, or dissatisfaction with life. One participant described developing curiosity about religion,

> I hated God for a long time. I had a hard time growing up, things happened. . . . I was very mad at God. And it came to a point in my life where either it had to be "He is" or "He isn't," and I had to pretty much go with that. . . . And the point I was at in my life, He *had* to be—otherwise, I was in deep trouble basically is what it came down to. (P 05)

In this way, participants' curiosity could stem from a sense of incongruence between their understanding and the reality at hand.

Although for some participants difficult emotional conflicts stimulated the development of curiosity, when curiosity would exacerbate the disconcertion ($N = 4$), rather than lead to understandings that could heal the rupture, they reduced their sense of curiosity. This shift might occur when interviewees felt

overwhelmed or despairing about the success of that curiosity. For some participants, changes in life situations, such as getting older or getting married, led them to place their curiosities aside. One woman described such a hiatus: "[I had enough] conflicts . . . working with kids particularly in this kind of setting [school] is so political. Usually I find [my curiosity is] more of the pain in the butt than anything else. . . . [I thought] why am I doing this?" (P 04).

Cluster 4: My Curiosity Prompts Me to Understand New Aspects of Myself, Which Leads to Increased Self-Worth and Personal Growth

This cluster was composed of MUs from all the participants' interviews. In addition to resolving emotional disconcertion, experiencing curiosity also increased general self-knowledge in areas such as spiritual awareness ($N = 2$), emotional awareness ($N = 1$), and awareness of values and beliefs ($N = 4$). For instance, one participant conveyed the following process of self-reflection:

> I always have a sort of idea or image in my mind of how things should be. . . . "Is it important for me to get to point A to point B in less than seven minutes?" Well, no, not really. There's other things that are more important—smell the roses along the way, that kind of thing. [But] I go out here in life and I see those principles violated, and then, all of a sudden, I want to know why. (P 01)

Interviewees realized new aspects of themselves when they used their curiosity to prompt processes of self-reflection.

For many of the participants ($N = 6$), experiencing curiosity was thought to lead to increased self-worth or personal growth. For instance, one participant noted, "It [my curiosity about women's condition] means the whole goal of living for me [crying]. . . . Because women played a role in my life, they encouraged me. . . . And so, for me . . . it means my life's worth actually" (P 02). Through both their subsequent achievements in learning and their greater ability to make social contributions, curiosity was experienced as leading to an increase in self-esteem.

In addition, the curiosity *itself* could become a central quality that enhanced participants' self-definition as it indicated a commitment to an interest and its pursuit ($N = 8$). One interviewee

poignantly described the way curiosity distinguished him: "It kept me out of trouble [my curiosity]. ... It kept me away from peer pressure. It kept me away from a lot of negativity ... growing up in the [bad] neighborhood I grew up in. ... It made me unique" (P 10). The sense of difference conferred by his curiosity protected him from destructive peer norms of behavior and let him develop his own goals.

Cluster 5: Both the Process and Content of Curiosity Can Evolve Across My Lifespan, yet I Have a Longstanding Internal Sense of Curiosity

Meaning units from all 11 participants contributed to this cluster, indicating that although participants described a strong internal sense of curiosity, they sometimes found that the *topic* of curiosity or the *process* by which they pursued the curiosity could change. Still, although participants indicated different origins of their curiosity within their lives, most agreed that curiosity had a longstanding presence within their lives. Nearly all of the participants described curiosity as either a product of their childhood experiences ($N = 7$) or a longstanding personality trait ($N = 2$), or both. For instance, one participant credited his curiosity to his childhood: "I have always been curious about how things work. I took them apart as a kid. It is probably rooted in there somewhere. ... When I was little I was compelled to see how it [things] worked" (P 09). Whether by nature or nurture, curiosity was described as a vital characteristic.

For all our participants ($N = 11$), experiencing curiosity was related to seeking knowledge and answers. Often triggered by the recognition that one does not know something, it led to the process of searching for answers. For instance, one participant offered the analogy of a puzzle, in which one is challenged to figure out what a box contains by touch alone (P 08). Instead of satiating the curiosity, however, the answers appeared to strengthen the curiosity of the participants. A cyclical process developed in which answers led them to identify new questions and to seek to learn even more.

At the same time, for some participants ($N = 4$) curiosity also was said to exist in the absence of specific questions that would initiate this cyclical process. For instance, one participant stated, "I've always been a very curious person by nature ... as far as I

can remember I've been a very irritating child, always asking petty questions, asking around why things happen" (P 03). It appeared difficult to determine whether a specific question or a general curiosity initiated a particular search for knowledge, and indeed, it may be that an interaction was at play.

Despite the enduring nature of their curiosity, many participants ($N = 6$) said that the process of pursuing their curiosity fluctuated. For instance, one participant said:

> You know in anything you sometimes need to step back a little bit and maybe get a little bit of perspective and then go back to it. And that way it's sort of rejuvenating and you remember you love this.... [A] time when I just need to regroup and maybe do something completely different and then come back. (P 07)

In this way, engagement in curiosity may vacillate, although it does not fade away.

Although less common than changes in the intensity of curiosity, a few participants ($N = 3$) described changes in the content of curiosity. One described:

> The time I spend pursuing this curiosity [history] may have changed or increased, but I think that is only because the availability of things to be curious about has increased. ... As time goes on there seem to be more opportunities of things to be curious about ... my curiosity for computers has increased as the technology and capability of computers has increased, but I don't think my curiosity in general has increased. ... Now this is just sort of a new outlet for that curiosity. (P 09)

Although general curiosity seemed to remain stable, the content of curiosities sometimes evolved and progressed.

Finally, several participants described important changes in their lives that resulted from their curiosity, such as finding solutions to difficult situations ($N = 3$) or helping to expand their world view ($N = 5$). One interviewee conveyed, "Another way it [curiosity] has influenced me is that life doesn't look so hard. ... Even when things are going like so horrible in my life, and there's so much chaos and craziness, I can still usually spot something good in my life" (P 05). A healthier worldview and deeper understandings of one's own experience was thought to result from

curiosity, which strengthened participants' commitment to being curious.

Core Category: Developing an Emotionally Compelling Understanding of Differences

This core category represents the main findings from the analysis as derived from the analysis of the six clusters. It was entitled, "Curiosity Is an Emotionally Compelling and Evolving Process to Understand Differences That Hazards the Danger of Engulfment." Interviewees indicated that curiosity tended to be a rewarding experience in terms of their development of knowledge, personal growth, and interpersonal relationships, and that, due to the cyclical nature of this process, they were driven to avidly pursue their curiosity. A desire to understand experiences of difference appeared to be seminal, as incongruence between themselves and others or between their expectations and reality led to the emergence of curiosity. A danger in this process was that the experience of curiosity could become consuming and threaten to engulf the participants or distance them from others in their lives.

Discussion

Some limitations of this study relate to the demographic explored. Even though this sample reported various topics of curiosity and was diverse along many factors, all participants identified at least one specific driving curiosity in their lives, and so findings may be more characteristic of depth curiosity (Berlyne, 1954). Although many of our participants described themselves as having breadth curiosity as well, readers should use caution when generalizing these findings to understanding curiosity when it occurs in the absence of a sustained curiosity about a specific topic. In addition, many of the participants were college-educated, so caution should be used in generalizing to other groups. Although this study used a retrospective recall process, in which participants described their development and experience of curiosity, it would be of interest to conduct a longitudinal study of curiosity to learn more about the developmental processes. By design, this study focused upon individuals who still have an active curiosity, so the processes by which curiosity is terminated could not be explored.

Despite these limitations, a variety of checks were used to maximize the credibility of this model—including processes of consensus, interview checks, and member checks in which participants provided feedback. The research team used memoing to identify and control potential biases. Further, the model becoming saturated suggests that the data collection was comprehensive. The current model augments the existing research by offering an experiential and holistic conceptualization of curiosity. The findings can be transformed into hypotheses and subjected to deductive analyses within different populations. This study developed new understandings of curiosity based on an empirical foundation.

The Functions of Curiosity

The experience of curiosity was described by participants as fulfilling a variety of functions: (a) it brought them closer to others who shared similar interests; (b) it motivated them to learn and master different tasks; (c) it led to personal development and self-awareness; and (d) it motivated them to understand the ways that other people or situations differed from their own expectations of the world. Of these functions, it is the second one that is discussed most in the curiosity literature, relating as it does to epistemic curiosity, or knowledge-seeking curiosity (e.g., Byman, 2005).

The interpersonal functions, however, are not well articulated in the literature, although they appeared as primary motivations for curiosity; and, despite participants' strong reluctance to curtail their curiosity, negative social consequences led to its restriction. A study by Reio and Wiswell (2000), however, demonstrated that curiosity influenced job performance through the mediated effects of socialization-related learning, supporting the link found here between curiosity and the quest for interpersonal understanding. In addition, Loewenstein (1994) discussed the potential of using curiosity to overcome stereotyping, an advantage of curiosity described by our participants.

In addition, the effects of curiosity on identity and self-awareness are discussed less often in the curiosity literature (e.g., Ofer & Durban, 1999). Our participants described a process of personal development in which their curiosity not only enhanced their self-esteem but fostered insight into aspects of themselves.

Some research has suggested that the development of curiosity about ones' internal experience has an important role to play in personal development in therapy (Williams & Levitt, 2007). Continued research on this point may be beneficial for the counseling community.

Changes in Curiosity

Shifts in curiosity appeared to be associated with changes in the need to reduce an internal sense of incongruence between one's understanding and a secondary understanding or a reality at hand. This reality may be in the form of another person, part of oneself, or an object in the external world. The idea that people seek coherence between aspects of self or between the self and an experience at hand is present in a number of constructivist theories (e.g., Ecker & Hulley, 2000; Guidano, 1995). The processes at play within the self appeared most consistent with a dialectical constructivist framework (Greenberg & Pascuale-Leone, 2001), in which understanding is facilitated through a process of dialogue, comparison, and exchange between aspects of the self or between the self and the experience of another person.

In the enactment of curiosity, it appeared that a conscious, agentic aspect of the self worked toward new understanding when stimulated by contact with an experience of incongruence about a topic that was emotionally relevant to the person. The process of learning occurred while the participants were engaged with a perplexing sense of incongruence between their understanding and the reality of a subject they were contemplating. This sense of incongruence oriented the person to continue contemplating whatever was still unclear and to maintain the curiosity. A repeated process of vacillation between the understanding and the inchoate occurred in which the sense of understanding improved while internal sense of incongruence decreased. As the topics of curiosity contained complexity, the person then might shift attention to a new, still-incongruous aspect of curiosity and continue to sharpen the understanding. Overall, this experience of incongruity was generally motivational. It only became problematized when individuals were unable to seek congruence because of restrictions in their resources and had to decrease the amount of time spent engaged in their curiosity.

Across the lifespan, however, the experience of curiosity was found to shift. Research by Giambra (1979) found that although information seeking did not change, the seeking of novelty and external stimulation decreased with age. These findings contribute to this literature a contexualized understand of why curiosity may fade: (a) individuals' life situations make the pursuit of curiosity more stressful; (b) an aspect of curiosity is resolved and the curiosity shifts to some new aspects; or (c) the effects of a consuming curiosity (e.g., relationship withdrawal, feelings of futility) become too powerful. Often, even though this initiation waned at times, individuals continued to experience themselves as having an enduring but dormant curiosity.

Curiosity as Having Both Positive and Negative Effects

Individuals described first becoming curious as a result of a desire for increased understanding but then coming to view curiosity not as an aversive experience to which they were driven, but as an internally motivated pleasure. In fact, it was so pleasurable that interviewees expressed concerns about findings that cited the disadvantages of curiosity.

Decreased engagement in curiosity was attributed to difficulty achieving goals or meeting life demands rather than to a problem with curiosity itself. On average, the participants wished they could spend 25 hours per week pursuing their curiosity, and four participants reported pursuing their curiosity up to 40 hours a week. Education and career researchers (Alberti & Witryol, 1994; Reio & Wiswell, 2000) have begun to research curiosity in the hope it can be used more efficiently as a motivator of learning.

The understanding of curiosity developed in this study can add to the present literature and bring clarity to some debates. Although most research has focused on curiosity as a positive experience (e.g., Ben-Zur, 2002; Burns & Gentry, 1998; Kashdan et al., 2004; Park, Peterson, & Seligman, 2004), in examining the holistic experience of longstanding curiosity, these findings suggested that it is a complex phenomenon that can lead to a range of emotional (excitement or contentment vs. fear, frustration, or anger), interpersonal (helping and understanding others vs. disrupting communication and creating isolation), and intrapersonal effects

(self-satisfaction, increased knowledge, and personal awareness vs. feeling frustrated within oneself or lonely).

Some research suggests emotional factors that might contribute to this bifurcation. Anxiety has been shown to lead to decreases in curiosity (Kashdan, & Roberts, 2004; Swann et al., 1981), whereas conflict and anger lead to increased curiosity (Ben-Zur, 2002; Reio & Callahan, 2004). The present findings support the idea that conflict can lead to curiosity, but reframe this debate by specifying that an internal desire to reconcile difference or incongruity may be what motivates someone to decide to pursue a curiosity. As such, anxiety might decrease curiosity if it impairs one's ability to reconcile differences (e.g., if the anxiety results from significant others demanding that one abstain from a curiosity) but increase it when it signals incongruity. Through many examples, this qualitative analysis provides rich description of the experience of curiosity and leads toward a more differentiated understanding of this phenomenon as an agentic process in which people feel driven to reconcile experiences of incongruence and to develop deeper understandings of emotionally compelling experiences.

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