

## Chapter 2

# Social Motives in the PSED II

Amy E. Davis and Kelly G. Shaver

### 2.1 Introduction

The extent to which those creating new firms have unique individual features or personal profiles has been a major focus of those studying the entrepreneurial process. Scholarly writing on personal factors includes everything from journal special issues focusing on entrepreneurial cognition (Mitchell et al., 2002) to entire books on the *Psychology of Entrepreneurship* (Baum, Frese, & Baron, 2006). Measures of individual differences have been an important component of the interview schedules used in the PSED research program. For example, the *Handbook of Entrepreneurial Dynamics*, describing the background of the modules included in the PSED I interview, contains 38 chapters and 3 appendices (Gartner, Shaver, Carter, & Reynolds, 2004). Of these chapters, 11 deal specifically with personal characteristics and arguably another 7 deal with the background experienced by, or beliefs held by, individual entrepreneurs.

This chapter provides a review of four of the individual difference measures in the PSED II: entrepreneurial intensity, social skills, expectancy, and career reasons. We begin by noting the differences in the data between PSED I and PSED II that apply to all four sections that follow. Then, for each social motive, we present descriptive statistics for the measures. We conclude by discussing potential research applications of the social motive measures.

#### 2.1.1 Numbers of Nascent Entrepreneurs

The total number of respondents, nascent entrepreneurs, and comparison group in the PSED I was 1,261. For the social and psychological measures this number is normally reduced to 1,216 by eliminating people who were in the

---

A.E. Davis (✉)

College of Charleston, 5 Liberty Street, Charleston, SC 29401, USA  
e-mail: davisae@cofc.edu

data set although they failed to meet some of the exclusion criteria or who—though members of the comparison group—were actually starting businesses.<sup>1</sup>

For the PSED II, the number of cases that must be eliminated in order to meet all of the presumed selection criteria is much smaller. PSED II begins with a total pool of 1,214 individuals. There is only one selection criterion that is not completely satisfied in the data set—the requirement that each enterprise be owned at least 50% by *persons* rather than by institutions (including persons who are representing institutions).

In the PSED II interview there are detailed questions about up to five potential owners of the business to be established. Respondents were first asked whether they would be the sole owner, whether the owners would be the self and spouse, or whether the owners would be the self and “others.” We simply assume that if the answer to this question (item AG1) is either “self” or “self and spouse,” no business institutions will be among the owners of the enterprise. Within the “self and others” category, we analyzed the responses to questions about whether an additional owner represented an institution (items AG5\_2–AG5\_5). If the answer to any of these items indicated that the potential owner represented an institution, we added the percentages together for the responses that indicated institutional representation. This procedure identified eight cases for which there was institutional representation that totaled more than 50% of the business being created. In what follows, we have dropped those eight cases, reducing the PSED II total sample to 1,206 respondents. This group includes 1,183 fully autonomous nascent entrepreneurs (no additional owners represent institutions) and 23 partially autonomous (some additional owners represent institutions, but their total ownership percentage does not exceed 50%). The comparable numbers for the social motive variables in the PSED I are 480 fully autonomous and 73 partially autonomous, for a total of 553 nascent entrepreneurs.<sup>2</sup> Thus, excluding the PSED I comparison group, a combined PSED I/PSED II data set will have 1,759 individuals who answered at least some (but not always all) of the social motive items.

### ***2.1.2 Differences Between the PSED I and PSED II***

The capacity to compare a representative sample of nascent entrepreneurs with typical individuals was provided by including a comparison group in the PSED I research design. This facilitated the use of social psychological indicators to distinguish those who were starting businesses from those who were not. A lack of resources precluded inclusion of a comparison group in the PSED II protocol. Even so, social psychological measures can be used to distinguish among different sorts of entrepreneurs based on factors including demographic characteristics, human capital, or industry segment. They can also be used to predict outcomes in the subsequent waves of data. But researchers seeking to make comparisons between nascent entrepreneurs and nonentrepreneurs will need to merge data of the PSED I and the PSED II. Because of differences in procedure and the interview schedules, such merging must be done with care.

One of the difficulties with individual difference measures is that by traditional principles of psychometrics, “multi-item scales” consisting of only a few items are typically regarded with skepticism. More items generally lead to more reliable constructs. Consequently, in an attempt to minimize the concern, the four social motives described in the present chapter were developed on the basis of theory discussed in the relevant sections of the PSED I *Handbook* (Liao & Welsch, 2004, chap. 17; Baron, 2004, chap. 21; Gatewood, 2004, chap. 13; Carter, Gartner, & Shaver, 2004, chap. 12).

Even then, there were not sufficient resources for the PSED I to include all of the items originally suggested for every identified concept. In PSED I the social motive variables were assessed in the mail questionnaire, in a form that facilitated quick responding. In PSED II, however, a lack of resources precluded a self-administered mail-back questionnaire, and phone interview time was at an even greater premium than in PSED I. The result is that in PSED II, none of the four motives described in this chapter had its full complement of PSED I items. Entrepreneurial intensity went from four items to two; social skills went from seven to four; expectancy went from six items to five, and career reasons went from 18 to 14. Thus, these four social motive variables were represented by 25 items, compared to the 35 included in the PSED I self-completed questionnaire. The specific items are shown in Tables 2.1 and 2.2, with weighted means and standard deviations.

When different methods are used to obtain information, there is always the potential for a “method effect.” It is possible that responses obtained from a self-completed mail questionnaire may differ from those provided during a phone interview, even if the item content and response scales are the same.

Although approximately 67% of the PSED I nascent entrepreneurs completed the mail questionnaire, there is some evidence that this was not a random subset of those completing the phone interview. For example, statistical analysis shows that PSED I respondents who completed the phone interview in both Wave 1 and Wave 2 but not the mail questionnaire were more likely to discontinue their start-up activities than respondents who completed the Wave 1 and Wave 2 phone interviews *and* the mail questionnaire. Therefore, not only did the mail questionnaire generate a lower number of cases (553) than the PSED I phone interview (830), but it also represented a different set of outcomes than that found among the phone interview cohort.

There are also differences in the response scales used in PSED I and II for some items. For PSED I, the items for Entrepreneurial Intensity were scored as 5-point bipolar scales. In order of appearance from left to right on the page, the descriptive labels for the numerical values were “completely untrue,” “mostly untrue,” “it depends,” “mostly true,” and “completely true.” Thus the scales became more positive from left to right. For PSED II, the response scales were also 5-point bipolar measures, but this time the labels from left to right were “strongly agree,” “agree,” “neither,” “disagree,” and “strongly disagree.” Thus the descriptors for the scale midpoint were different from one data set to the next, and were there any position biases, they would have operated in the

**Table 2.1** PSED II items for three social motive variables

	Mean	SD	PSED I item no.	PSED II item no.
<i>Entrepreneurial intensity</i> ( $N = 1203.86$ , $\alpha = 0.69$ )				
There is no limit as to how long I would give maximum effort to establish this new business	4.16	0.98	QL1e	AY9
My personal philosophy is to “do whatever it takes” to establish my own business	4.09	0.97	QL1f	AY10
<i>Social skills</i> ( $N = 1201.43$ ; $\alpha = 0.36$ )				
I can talk to almost anybody about almost anything (reversed)	4.10	1.06	QL1y	AY3
I consider myself a loner	3.49	1.30	QL1u	AY1
I rarely show my feelings	3.33	1.20	QL1s	AY11
Whatever emotion I feel on the inside tends to show on the outside (reversed)	2.89	1.30	QL1v	AY2
<i>Expectancy</i> ( $N = 1204.28$ ; $\alpha = 0.70$ )				
I am confident I can put in the effort needed to start this new business	4.56	0.57	QK1f	AY8
Overall, my skills and abilities will help me start this new business	4.48	0.63	QK1d	AY6
My past experience will be very valuable in starting this new business	4.35	0.86	QK1e	AY7
If I start this new business, it will help me achieve other important goals in my life	4.28	0.79	QK1c	AY5
Starting this new business is much more desirable than other career opportunities I have	4.12	0.94	QK1b	AY4

**Table 2.2** PSED II items for career reasons

	Mean	SD	PSED I item no.	PSED II item no.
<i>Career reasons</i> ( $N = 1197.28$ , $\alpha = 0.86$ )				
To have considerable freedom to adapt your own approach to work	3.95	1.08	QG1f	AW5
To give yourself, your spouse, and your children financial security	3.85	1.25	QG1g	AW6
To have greater flexibility for your personal and family life	3.83	1.22	QG1b	AW2
To earn a larger personal income	3.68	1.17	QG1k	AW9
To fulfill a personal vision	3.65	1.21	QG1o	AW13
To have a chance to build great wealth or a very high income	3.07	1.42	QG1n	AW12
To build a business your children can inherit	2.71	1.56	QG1j	AW8
To achieve something and get recognition for it	2.68	1.40	QG1l	AW10
To develop an idea for a product	2.34	1.45	QG1m	AW11
To have the power to greatly influence an organization	2.26	1.42	QG1q	AW14
To follow the example of a person you admire	2.26	1.42	QG1i	AW7
To achieve a higher position in society	2.12	1.32	QG1a	AW1
To be respected by your friends	1.94	1.25	QG1e	AW4
To continue a family tradition	1.80	1.33	QG1d	AW3

opposite ways across data sets. Moreover, in PSED II, respondents were allowed to give responses of “not relevant,” and “don’t know,” as well as the five descriptors provided for the scale. There were only a few “don’t know” responses, but researchers who use the combined data sets should be careful to reverse the Entrepreneurial Intensity items from PSED I to PSED II.

As noted above, only four of the seven Social Skills items from PSED I made it into PSED II. Responses on these four items were measured using the same 5-point bipolar scales used for Entrepreneurial Intensity. Thus, in PSED I, the Social Skills variables had response alternatives that went from “completely untrue” to “completely true,” whereas in PSED II the response alternatives went from “strongly agree” to “strongly disagree.” Again, researchers seeking to combine the social skills measures across PSED I and PSED II will have to reverse-score one or the other. The Social Skills items have additional difficulties that will be addressed in that section of the present chapter.

The five Expectancy items included in PSED II were scored using 5-point bipolar scales. Again, the response alternatives presented ranged from “strongly agree” to “strongly disagree,” whereas in PSED I the response alternatives had ranged from “completely untrue” to “completely true.” Consequently, researchers desiring to combine the expectancy measures from one data set to the other will need to reverse-score one of the two measures.

On the other hand, the Career Reasons items have the same wording in both data sets, were scored in the same direction, and had the same response alternatives in both PSED I and PSED II. Respondents in both studies were asked to describe the extent to which each reason applied to them. Responses were measured in both cases by the same 5-point unipolar scale, with response alternatives “to no extent,” “to a little extent,” “to some extent,” “to a great extent,” and “to a very great extent.” Thus, the Career Reasons items can simply be aggregated across data sets with no need to change the scoring. Of course, researchers should probably keep in mind that the Career Reasons 5-point scale is unipolar, whereas the 5-point scales for the other three social motives included in this chapter are bipolar in nature.

## 2.2 Social Motives

### 2.2.1 *Entrepreneurial Intensity*

One often hears of entrepreneurs who would rather work 80 hours per week on their own businesses than 40 hours per week for someone else. For example, researchers have found that respondents willing to sacrifice for business creation were more likely to report intentions of becoming entrepreneurs (Kolvereid & Isaksen, 2006). Moreover, whether it is called “passion,” or “commitment,” this level of internal drive is a major asset in overcoming the inevitable challenges to be surmounted in business creation. In the PSED I, such commitment

was addressed as “entrepreneurial intensity” (Liao & Welsch, 2004). Although the original entrepreneurial intensity (EI) scale included 12 items (see Gundry & Welsch, 2001), the PSED I was able to include only 4 of these 12. However, the four items selected showed reasonable reliability and validity, and each one showed significant differences between the nascent entrepreneurs and the comparison group included in PSED I.<sup>3</sup> According to Liao and Welsch (2004) the mean differences across groups ranged from a low of 0.12 for “Owning my own business is more important than spending more time with my family” to a high of 0.78 for “I would rather own my own business than earn a higher salary employed by someone else.”

The first item included in PSED II was “There is no limit as to how long I would give maximum effort to establish this new business” (PSED II item AY9; PSED I nascent/comparison group mean difference = 0.54). The second entrepreneurial intensity item was “My personal philosophy is to ‘do whatever it takes’ to establish my own business” (PSED II item AY10; PSED I mean difference between nascent and comparison group = 0.86). The mean scores and standard deviations for these two items in PSED II are shown in the top panel of Table 2.1. The Cronbach alpha for this two-item scale was 0.71. Most respondents either agree or strongly agree that they will extend maximum effort and sacrifice for the sake of establishing new businesses.

### 2.2.2 Social Skills

Nascent entrepreneurs rely in part on their social skills to establish and maintain relationships they will need for converting their venture opportunities into established businesses. Relationships provide information, referrals, resources, and support (Ibarra, 1992; Ibarra, 1993). These useful outcomes of relationships are often referred to as *social capital* (Baron, 2004; Lin, 2000; Nahapiet & Ghoshal, 1998). Often, social capital is measured by the existence of ties between a focal person (such as an entrepreneur) and particular others as well as the strength of those ties (Beggs, Haines, & Hurlbert 1996; Hurlbert, Haines, & Beggs, 2000; Marsden & Campbell, 1984). However, measures of differences in entrepreneurs’ social networks do not illuminate why some entrepreneurs have more favorable social networks than others.

Social skills (also referred to as social competence, Baron & Markman, 2003) will encourage key individuals—employees, customers, investors, suppliers, vendors, or lenders—to enter exchanges with entrepreneurs. Two studies have found that emotional intelligence and impression management, intentionally presenting desired emotions to others, had important effects on the willingness of employees to behave entrepreneurially (Brundin, Patzelt, & Shepherd, 2008; Zampetakis, Beldekis, & Moustakis, 2009). Social skills that might be expected to have particular importance to entrepreneurs include social adaptability and expressiveness. Social adaptability is the ability to be comfortable in

a variety of different social situations and to relate effectively to individuals from different backgrounds (Baron, 2004). Independent contractors in the cosmetics industry with high levels of social adaptability had higher incomes over three years than those with lower levels of social adaptability (Baron & Markman, 2003). Moreover, Baron and Markman found that expressiveness was positively associated with revenues from sales in the analysis of entrepreneurs in high-technology industries.

Other social skills examined in previous studies include impression management, social perception, and persuasion (Baron, 2004). Impression management refers to actions aimed at generating favorable responses from others and includes creating a favorable impression in the minds of others through “flattery, agreeing with the target persons, doing small favors for them, or expressing attitudes and preferences that are currently in vogue” (Baron, 2004, pp. 224–225). Entrepreneurs want to convey confidence and competence to others and may use impression management to do so. Social perception is the ability to “accurately perceive the emotions, traits, motives, and intentions of others” (Baron, 2004, p. 228). These are processes of impression formation, attribution, and the judgment of underlying intentions (for details of the processes of judgment of intention, see Gilbert & Jones, 1986; Jones & Davis, 1965; Shaver, 1975; Shaver, 1985). Persuasion can be especially useful to entrepreneurs, as can the knowledge of which persuasive technique might be most appropriate in the setting (see Cialdini, 1993; Petty & Cacioppo, 1984, 1986).

As important to entrepreneurial success as social skills might be, their representation in PSED II is smaller than their representation was in PSED I. Only four of the seven Social Skills items included in PSED I were present in PSED II, and the rationale for which items were included is not entirely clear. Principles for selection might have included the items with the highest intercorrelations in PSED I, or the lowest standard deviations, or the highest mean scores. None of these principles was apparently utilized. As it happens, it would have been difficult to use “highest intercorrelation” as the criterion for inclusion, as only three of the seven PSED I Social Skills variables showed significantly positive correlations, the highest of which was 0.53 (Baron, 2004). These three were “I rarely show my feelings” (included in PSED II as item AY11), “I consider myself a loner” (included in PSED II as item AY1), and “I am often concerned about what others think of me” (not included in PSED II).

Another inclusion criterion might have been to select the items with the lowest standard deviations. In Baron’s (2004) *Handbook* chapter for PSED I, the four Social Skills items with the lowest standard deviations were “I am a good judge of other people” (a relatively high mean score of 3.91 and a standard deviation of 0.70), “I usually know what is appropriate in any situation” (the highest mean score 4.16 and a standard deviation of 0.77), “Whatever emotion I feel on the inside tends to show on the outside” (the lowest mean score at 2.31 with a standard deviation of 0.89), and “I can talk to almost anybody about almost anything” (mean score of 3.90 and standard deviation of 1.27). Only the last two of these were included in PSED II, as items AY2 and AY3, respectively.



Finally, the PSED I items with the highest mean scores might have been chosen for inclusion in PSED II. These were "... know what is appropriate ...," "... good judge of other people ...," "... can talk to almost anybody ... (AY3)," and "... rarely show feelings ... (AY11)." But clearly two of the high mean score items were omitted.

One might expect that an outgoing and passionate entrepreneur should be able to "talk to almost anybody about almost anything" (in PSED II as AY3). Stated in the positive, this sounds quite reasonable. Respondents strongly agreeing to the statement would be asserting that they not only have social ease in a variety of situations (social adaptability) but are willing to discuss and share on a variety of topics (expressiveness).<sup>4</sup> On the other hand, strong *disagreement* with the item as stated could logically originate from one of three categories of people. The first would consist of individuals who feel comfortable relating to anyone as long as the topics of discussion are within a very narrow range.<sup>5</sup> The second would consist of individuals who feel comfortable talking about anything at all, but with a narrow range of conversation partners. Finally, there would be the individuals who feel uncomfortable even when the topics of discussion are quite limited.

This nuance should be kept in mind when using the item as a predictor variable, especially if the ability to talk to almost *anybody* has a different effect on entrepreneurial outcomes than the ability to talk about almost *anything*. Fortunately, the vast majority of respondents agreed with the statement. Recall that the response alternatives for this section of PSED II were opposite those for PSED I. So to make this item consistent with PSED I and have higher numbers represent *more* social skill we reverse-scored it. Because it was supposed to represent an expressive component of emotional intelligence (a good thing for Social Skills) we also reverse-scored "Whatever emotion I feel on the inside tends to show on the outside" (item AY2). On the other hand, the two remaining items—"I consider myself a loner" and "I rarely show my feelings" both represent less in the way of social skill, so strong *disagreement* should be a positive thing for Social Skill.

In PSED I the correlations among Social Skills items were relatively low (three significant relationships among the 21 possible comparisons). For that reason, as well as to check on the validity of our impressions regarding what should be reverse-scored, we believed it important to test the intercorrelations among the four items included in PSED II. Five of the six possible correlations were positive, and four of these were significantly positive. The only exception to this pattern was a negative correlation ( $r = -0.05$ , n.s.) between "Whatever emotion I feel on the inside ..." and "I consider myself a loner." Means and standard deviations for the Social Skills items included in PSED II are shown in the second panel of Table 2.1. Unfortunately, the Cronbach alpha for this set of items was unacceptably low at 0.36. Therefore, researchers should carefully consider the theoretical and conceptual justifications for the inclusion of Social Skills items and determine which indicators should be used and whether they should be combined as a scale with such a low alpha or kept as separate indicators of different social skills.



### 2.2.3 Expectancy

Expectancy theory (Vroom, 1964) is addressed in Chapter 13 of the *Handbook of Entrepreneurial Dynamics* (Gatewood, 2004). Expectancy theory is an important motivation theory in the organizational behavior literature and is composed of valence, instrumentality, and expectancy. Valence is the value individuals place on particular outcomes. Employees and entrepreneurs differ on the rewards they value, as evidenced by the Career Reasons section below. First-level outcomes are those which have intrinsic value, such as the satisfaction generated from creating new products. Second-level outcomes lead to other desirable outcomes, the way that earning a high salary enables an individual to achieve a desired lifestyle. Instrumentality is the belief that performance will result in outcomes. Instrumentality is the relationship between a work outcome and desired rewards, sometimes referred to as the relationship between first and second order outcomes (Gatewood, 2004).

Expectancy is the level of confidence individuals have that their work effort will result in high performance. For entrepreneurship, the outcomes of a business may be determined by situational (exogenous factors) such as access to capital or demand potential for the business's product or service, as well as the activities (endogenous factors) of the entrepreneur (Gatewood, 2004). In other words, whether entrepreneurs believe that their business will generate high financial returns depends on their assessment of economic conditions and other external factors. But the belief also depends on their confidence that work will result in desired performance (Gatewood, 2004; Gatewood, Shaver, Powers, & Gartner, 2002; Van Auken, 1999). In the case of entrepreneurship, people with high expectancies involving both sorts of factors believe that their entrepreneurial activities will result in operational businesses.

Many researchers have focused on the related concept of self-efficacy (Bandura, 1986) and have found that high levels of self-efficacy influenced sales growth, satisfaction, perceptions of entrepreneurial opportunities, and moral awareness (Bryant, in press; Krueger, Reilly, & Carsrud, 2000; Mitchell & Shepherd, in press). Townsend, Busenitz, and Arthurs (in press) used data from the PSED I and found that expectancy increased the odds of respondents establishing operational businesses in between the initial interview and the 12-month follow-up.

In the development of PSED I, eight items were identified that represented all of the various links included in the valence-instrumentality-expectancy system. Two of these had to be dropped for lack of space, leaving six items that tested expectancy. Five of the six are present in PSED II. The item dropped from PSED I to PSED II was "If I work hard, I can successfully start a business." Townsend et al. (in press) called this measure outcome expectancy.

As with the other items in this section (AY), the PSED II items for Expectancy need to be reversed in order that (a) scoring will be in the same direction as

in PSED I, and (b) higher numbers represent *higher* expectancies for success. The means and standard deviations for the five expectancy variables are shown in the third panel of Table 2.1. All of these items were significantly positively correlated with one another, with the correlations ranging from a high of 0.50 (“past experience” with “skills and abilities”) to a low of 0.20 (“past experience” with “achieving other goals”). If all items are combined into a single scale, the Cronbach alpha = 0.70. Thus, although the five Expectancy items show a minimally acceptable level of reliability as a single scale, there is enough internal variation that many researchers may believe it more important to consider the various theoretically-derived pieces as separate entities.

### 2.2.4 Career Reasons

Individuals may have a variety of goals for starting businesses. These goals are called Career Reasons and are addressed in Chapter 12 of the *Handbook of Entrepreneurial Dynamics* (Carter et al., 2004). This list of reasons was initially developed by Scheinberg and Macmillan (1988), subsequently modified by Shane, Kolvereid, and Westhead (1991), and modified again by Birley and Westhead (1994). The factor analyses performed in these studies typically identified five categories of reasons why an individual might seek to create a business. These were innovation (a desire to create something new), independence (controlling one’s own destiny), external validation (need for approval and recognition), roles (following admired individuals or family traditions), and financial success. Because of variations in personal goals found in other research on gender differences, Carter et al. (2004) elected to add a sixth category—self-realization (through challenging the self or leading others).

A factor analysis of the 18 Career Reasons included in the PSED I, using a minimum eigenvalue criterion to terminate the analysis, did not distribute the items in ways similar to those found in prior research. But when the analysis was directed to produce a six-factor solution, the items were indeed distributed much as they had been in earlier studies. The six factors accounted for a total of 68% of the variance, with three of the factors—self-realization, financial success, and recognition—achieving Cronbach alpha levels of 0.70 or above, and the other three achieving alpha levels of 0.60 or above. A comparison of the results for nascent entrepreneurs versus the comparison group showed no differences between the two groups on financial success, innovation, self-realization or independence, but did find differences on roles and recognition. Interestingly, on these two latter comparisons, the scores for the nascent entrepreneurs were lower than those for the members of the comparison group (Carter, Gartner, Shaver, & Gatewood, 2003).

Whereas the PSED I had 18 items representing Career Reasons, the PSED II dropped this number to 14. Once again, the precise reasons for the exclusions are not entirely clear. Of the four items excluded from PSED II, three were

originally in the self-realization factor, thus leaving self-realization as a single item. This outcome is difficult to understand in light of the fact that all four PSED I items dealing with financial security were carried over as is to the PSED II. Moreover, the other item excluded from the PSED I was from the innovation factor, which to begin with had only two items, so this factor also became a single item. Given that two of the six factors in the PSED I are reduced to single items in PSED II, it is likely not to be useful to continue to set a solution for six factors. Consequently, researchers interested in these Career Reasons variables—and especially in combining them across data sets—should probably use a minimum eigenvalue criterion as the way to end further iterations within a principal component analysis. In addition, researchers may wish to exclude from their principal component analysis the single measure of innovation and the single measure of self-realization. Mean scores and standard deviations for the 14 Career Reasons items are presented in Table 2.2.

We conducted a principal component factor analysis of the 14 weighted PSED II Reasons items, using a minimum eigenvalue criterion for ending iterations, and subjected the result to a varimax rotation. This procedure produced the three-factor solution shown in Table 2.3.

This solution accounted for 54.93% of the variance and the rotation converged in seven iterations. Items are listed in Table 2.3 in descending order of loading within factors. Items with primary loadings > 0.40 and

**Table 2.3** PSED II principal component analysis three-factor solution for career reasons (weighted)

	PSED II item no.	Factor			PSED I item no.
		I	II	III	
Weighted N:		1199.47	1205.30	1206.00	
Cronbach alpha:		$\alpha = 0.81$	$\alpha = 0.75$	$\alpha = 0.62$	
% variance accounted for:		35.11	12.62	7.20	
Item content					
Respected by my friends	AW4	<b>0.70</b>	0.11	0.07	QG1e
Achieve, get recognition	AW10	<b>0.68</b>	0.32	−0.08	QG1(ell)
Power influence an organization	AW14	<b>0.67</b>	0.31	0.01	QG1q
Follow person admired	AW7	<b>0.65</b>	0.09	0.24	QG1i
Develop an idea for a product	AW11	<b>0.65</b>	0.02	−0.01	QG1m
Continue a family tradition	AW3	<b>0.62</b>	−0.15	0.37	QG1d
Higher position for myself	AW1	0.57	0.41	0.03	QG1a
Fulfill personal vision	AW13	<b>0.56</b>	0.13	0.11	QG1o
Build business which kid can inherit	AW8	<b>0.48</b>	0.35	0.26	QG1j
Earn large personal income	AW9	0.10	<b>0.81</b>	0.22	QG1k
Build great wealth, high income	AW12	0.31	<b>0.78</b>	0.11	QG1n
Give family financial security	AW6	0.07	0.64	0.50	QG1g
Greater flexibility in personal life	AW2	−0.01	0.26	<b>0.80</b>	QG1b
Considerable freedom to adapt	AW5	0.17	0.14	<b>0.71</b>	QG1f

Note: 54.93%, 3 components, 7 iterations, minimum eigenvalue criterion, varimax rotation.

cross-loadings  $< 0.40$  were retained. Applying this decision rule eliminated two items. The first item eliminated was AW1, “gain higher position;” this was dropped from the first factor. The second item eliminated was AW6, “give family financial security;” this was dropped from the second factor obtained. Inspection of the remaining items suggest that Factor I captured (mostly) non-financial reasons for engaging in entrepreneurial behavior, so we shall refer to it as Personal Reasons. The two items remaining in Factor II both deal with financial issues, so we chose to call it Financial Reasons. Finally, the two items in Factor III deal with freedom to adapt, and because they are identical to one of the PSED I factors, we will use the designation Independence.

The items remaining in each factor were subjected to reliability analysis and the results are shown near the top of each Factor column in Table 2.3. Personal Reasons produced an overall mean of the items of 2.45 with an average item variance of 1.92, and a Cronbach alpha of 0.81. Financial Reasons produced an overall mean of the items of 3.37 with an average item variance of 1.69 and a Cronbach alpha of 0.75. Finally, Independence produced an overall mean of items that was equal to 3.89 with an average item variance of 1.34 and a Cronbach alpha = 0.62. The last of these reliability estimates is on the low side, but the first two are acceptable. Stepping back from the details, it appears as though the PSED II respondents care first about the goal of maintaining Independence in one’s life by establishing a business, followed by a desire for Financial Success and the various Personal Reasons for establishing a business. The PSED II Personal Reasons encompass elements of what in Chapter 13 of the *Handbook* was referred to as Recognition, Roles, Innovation, and Self-Realization (Carter et al., 2004). The PSED II Financial Reasons factor includes three of the four Financial Success items from PSED I and the PSED II Independence factor overlaps completely the PSED I Independence factor.

### 2.2.5 Data Set Comparisons

Because the number of social motive items present in PSED II was significantly reduced from the number of such items in PSED I, it may be useful to provide some cross-data set comparisons of the four social motives described in this chapter. By way of summary, we have treated each of the four social motives as if it were a scale all by itself, ignoring for the moment the likely possibility that some researchers will elect to split some of these “scales” into subsets of items. The results of the comparisons are shown in Table 2.4.

To make it very clear that we have combined all items in a subsection for these comparisons, we have indicated the number of items in each subsection and have provided means and variances for each of the four collections of variables. For Entrepreneurial Intensity, the Cronbach alpha within PSED I was 0.73, whereas the Cronbach alpha within PSED II was 0.69. For the four items in Social Skills, the alpha within PSED I was 0.36, the same value that was

**Table 2.4** PSED II scales by dataset (weighted, nascents only)

Scale (items in PSED II)	<i>N</i>	Alpha	Mean	<i>SD</i>
Entrepreneurial intensity (2)				
PSED I	546.60	0.73	7.59	1.80
PSED II	1203.86	0.69	8.25	2.90
Social skills (4)				
PSED I	536.92	0.36	13.31	6.89
PSED II	1201.43	0.36	13.81	8.12
Expectancy (5)				
PSED I	543.68	0.76	21.10	9.24
PSED II	1204.28	0.70	21.78	6.64
Career reasons (14)				
PSED I	526.52	0.83	41.00	99.66
PSED II	1197.28	0.86	40.12	119.74

obtained in PSED II. This level is low enough in both data sets that it is probably a mistake to treat these four items as an internally coherent scale. For the five items in Expectancy, the alpha within PSED I was 0.76, whereas the alpha for these items in PSED II was 0.70. Finally, for the 14 items in Career Reasons, the alpha for PSED I was 0.83, and the alpha for PSED II was 0.86. Thus three of the four social motive variables have a level of internal consistency sufficient to warrant analysis as unitary scales (unless there are compelling theoretical reasons to break one or another such “scale” into smaller component parts).

**2.2.6 Future Research**

Combining data from PSED I and II presents both challenges and opportunities. Many researchers have used the social motive items in PSED I to produce important research findings (for examples, see Cassar, 2006; Townsend et al., in press). Their work should be extended and replicated, using data from the PSED II. The PSED II has more entrepreneurs and a sample that is more representative than the PSED I sample due to attrition between the screener and the phone interview and the phone interview and the mail questionnaire. These respondents will add more statistical power and allow for the exploration of historical changes between the two data sets. As a tradeoff, the PSED II has fewer indicators of entrepreneurial intensity, social skills, expectancy, and career reasons. We recommend that researchers electing to combine data sets not only make the data transformations discussed above, but conduct their analyses of PSED I data with the inclusion and exclusion of variables unavailable in PSED II to demonstrate how differences affect construct or measurement validity.

The social motive indicators have numerous potential research applications. Researchers can examine how the four together or some subset influence a variety of characteristics including the industries entrepreneurs choose, strategies, team formation, and growth intentions. Social motive factors may also be

used to predict the outcomes of nascent entrepreneurs' start-ups in the follow-up interviews. Davis and Shaver plan to use social motive factors to distinguish nascent entrepreneurs who have initiated actions toward starting a business for several years prior to the questionnaire from those who began their pursuit of entrepreneurship only a few months prior to the interview. Using both the PSED I and PSED II, we will first distinguish nascent entrepreneurs and the comparison group. Then we will compare the social motive characteristics of entrepreneurs in the PSED I and PSED II who had engaged in activities toward creating the business they are currently pursuing for more than 10 years from those doing so from 1–9 years and then for those for less than 1 year. Then, we will examine the subsequent wave outcomes of respondents' ventures: established, still active, or discontinued. Ideally, our analysis will be predictive with regard to which entrepreneurs who have just begun their pursuit of entrepreneurship will become the entrepreneurs who spin their wheels for 10 or more years and which quickly convert to operational businesses.

## Notes

1. This sample is Row G in Table C5 in Appendix C of the *Handbook* (Reynolds & Curtin, 2004). For a detailed description of the respondent selection process that leads to this number of cases, see Shaver, Carter, Gartner, and Reynolds (2001). The reduction can be accomplished by using the SPSS syntax file kscleans06.sps, available through [www.cof-c.edu/~shaverk/](http://www.cof-c.edu/~shaverk/).
2. Once nascent entrepreneurs on teams in which institutions will own greater than 50% of the new company have been eliminated, there are 817 nascent entrepreneur respondents of the phone interview. Only 553 of them answered the mail questionnaire where the social motive indicators are located.
3. For entrepreneurial intensity and the other social motive items, the “stem” was different between the nascent entrepreneur, for whom questions about establishing “my business” made sense as is, and the Comparison Group, who necessarily had to be asked these questions in an “as if” fashion.
4. The willingness to talk to anyone about anything could also reflect low impression management if entrepreneurs are willing to talk to anyone about negative topics and feelings without regard to how such discussions could adversely affect their businesses.
5. These individuals, for example, may have high impression management and be unwilling to discuss topics or feelings that would reflect unfavorably on them.

## References

- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Baron, R. A. (2004). Social skills. In W. B. Gartner, K. G. Shaver, N. M. Carter, & P. D. Reynolds (Eds.), *Handbook of entrepreneurial dynamics: The process of business creation* (pp. 220–234). Thousand Oaks, CA: Sage.
- Baron, R. A., & Markman, G. D. (2003). Beyond social capital: The role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing*, 18, 41–60.

- Baum, J. R., Frese, M., & Baron, R. A. (Eds.). (2006). *The psychology of entrepreneurship*. Mahwah, NJ: Psychology Press.
- Beggs, J. J., Haines, V. A., & Hurlbert, J. S. (1996). Situational contingencies surrounding the receipt of informal support. *Social Forces*, 75(1), 201–222.
- Birley, S., & Westhead, P. (1994). A taxonomy of business start-up reasons and their impact on firm growth and size. *Journal of Business Venturing*, 9, 7–31.
- Brundin, E., Patzelt, H., & Shepherd, D. A. (2008). Managers' emotional displays and employees' willingness to act entrepreneurially. *Journal of Business Venturing*, 23, 221–243.
- Bryant, P. (in press). Self-regulation and moral awareness among entrepreneurs. *Journal of Business Venturing*.
- Carter, N. M., Gartner, W. B., & Shaver, K. G. (2004). Career reasons. In W. B. Gartner, K. G. Shaver, N. M. Carter, & P. D. Reynolds (Eds.), *Handbook of entrepreneurial dynamics: The process of business creation* (pp. 142–152). Thousand Oaks, CA: Sage.
- Carter, N. M., Gartner, W. B., Shaver, K. G., & Gatewood, E. J. (2003). The career reasons of nascent entrepreneurs. *Journal of Business Venturing*, 18, 13–39.
- Cassar, G. (2006). Entrepreneur opportunity costs and intended venture growth. *Journal of Business Venturing*, 21, 610–632.
- Cialdini, R. B. (1993). *Influence: The psychology of persuasion*. New York: Morrow.
- Gartner, W. B., Shaver, K. G., Carter, N. M., & Reynolds, P. D. (Eds.). (2004). *Handbook of entrepreneurial dynamics: The process of business creation*. Thousand Oaks, CA: Sage.
- Gatewood, E. J. (2004). Entrepreneurial expectancies. In W. B. Gartner, K. G. Shaver, N. M. Carter, & P. D. Reynolds (Eds.), *Handbook of entrepreneurial dynamics: The process of business creation* (pp. 153–162). Thousand Oaks, CA: Sage.
- Gatewood, E. J., Shaver, K. G., Powers, J. B., & Gartner, W. B. (2002). Entrepreneurial expectancy, task effort, and performance. *Entrepreneurship Theory and Practice*, 27, 187–206.
- Gilbert, D. T., & Jones, E. E. (1986). Exemplification: The self-presentation of moral character. *Journal of Personality*, 54, 593–615.
- Gundry, L., & Welsch, H. (2001). The ambitious entrepreneur: High growth strategies of women based enterprises. *Journal of Business Venturing*, 16, 453–470.
- Hurlbert, J. S., Haines, V. A., & Beggs, J. J. (2000). Core networks and tie activation: What kinds of routine networks allocate resources in nonroutine situations. *American Sociological Review*, 65, 598–618.
- Ibarra, H. (1992). Homophily and differential returns: Sex differences in network structure and access in an advertising firm. *Administrative Science Quarterly*, 37, 422–447.
- Ibarra, H. (1993). Personal networks of women and minorities in management: A conceptual framework. *Academy of Management Review*, 18, 56–87.
- Jones, E. E., & Davis, K. E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 216–266). New York: Academic Press.
- Kolvereid, L., & Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing*, 21, 866–885.
- Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15, 411–432.
- Liao, J., & Welsch, H. (2004). Entrepreneurial intensity. In W. B. Gartner, K. G. Shaver, N. M. Carter, & P. D. Reynolds (Eds.), *Handbook of entrepreneurial dynamics: The process of business creation* (pp. 186–195). Thousand Oaks, CA: Sage.
- Lin, N. (2000). Inequality in social capital. *Contemporary Sociology*, 29, 785–795.
- Marsden, P. V., & Campbell, K. E. (1984). Measuring tie strength. *Social Forces*, 63, 482–501.
- Mitchell, R. K., Busenitz, L., Lant, T. M., McDougall, P. P., Morse, E. A., & Smith, J. B. (2002). Toward a theory of entrepreneurial cognition: Rethinking the people side of entrepreneurship research. *Entrepreneurship Theory and Practice*, 27, 93–104.



- Mitchell, J. R., & Shepherd, D. A. (in press). To thine own self be true: Images of self, images of opportunity, and entrepreneurial action. *Journal of Business Venturing*.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242–266.
- Petty, R. E., & Cacioppo, J. T. (1984). The effects of involvement on responses to argument quantity and quality: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology*, 46, 69–81.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.
- Reynolds, P. D., & Curtin, R. T. (2004). Appendix C: Examples of analysis: Work file preparation, comparisons, and adjustment of weights. In W. B. Gartner, K. G. Shaver, N. M. Carter, & P. D. Reynolds (Eds.), *Handbook of entrepreneurial dynamics: The process of business creation* (pp. 495–540). Thousand Oaks, CA: Sage.
- Scheinberg, S., & Macmillan, I. C. (1988). An 11-country study of motivations to start a business. In B. A. Kirchoff, W. A. Long, W. E. McMullan, K. H. Vesper, & W. E. Wetzel, Jr. (Eds.), *Frontiers of entrepreneurship research* (pp. 669–687). Wellesley, MA: Babson College.
- Shane, S., Kolvereid, L., & Westhead, P. (1991). An exploratory examination of the reasons leading to new firm formation across country and gender. *Journal of Business Venturing*, 6, 431–446.
- Shaver, K. G. (1985). *The attribution of blame: Causality, responsibility, and blameworthiness*. New York: Springer-Verlag.
- Shaver, K. G. (1975). *An introduction to attribution processes*. Cambridge, MA: Winthrop.
- Shaver, K. G., Carter, N. M., Gartner, W. B., & Reynolds, P. D. (2001). Who is a nascent entrepreneur? Decision rules for identifying and selecting entrepreneurs in the Panel Study of Entrepreneurial Dynamics (PSED). In W. D. Bygrave, E. Autio, C. G. Brush, P. Davidsson, P. G. Greene, P. D. Reynolds, & H. J. Sapienza (Eds.), *Frontiers of entrepreneurship research* (p. 122). Babson Park, MA: Babson College.
- Townsend, D. M., Busenitz, L. W., & Arthurs, J. D. (in press). To start or not to start: Outcome and ability expectations in the decision to start a new venture. *Journal of Business Venturing*.
- Van Auken, H. E. (1999). Obstacles to business launch. *Journal of Developmental Entrepreneurship*, 4, 175–187.
- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Zampetakis, L. A., Beldekos, P., & Moustakis, V. S. (2009). “Day-to-day” entrepreneurship within organizations: The role of trait emotional intelligence and perceived organizational support. *European Management Journal*, 27, 165–175.



<http://www.springer.com/978-0-387-09522-6>

New Firm Creation in the United States  
Initial Explorations with the PSED II Data Set  
Reynolds, P.D.; Curtin, R.T. (Eds.)  
2009, XVII, 342 p., Hardcover  
ISBN: 978-0-387-09522-6