



SRCD ORAL HISTORY INTERVIEW

Virginia Crandall

Interviewed by Jacquelynne Eccles
In Yellow Springs, Ohio
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Eccles: This is Jacquelynne Eccles. I'm here to interview Virginia Crandall and we are at her house in Yellow Springs, Ohio. I'll let Ginny spell her name for you.

Crandall: Well, everybody calls me Ginny - spelled G-i-n-n-y - and it's actually Virginia Crandall.

Eccles: All right. Well, let's begin with some general intellectual history so we can find out how you got into this field and what your original influences were. So, I'm going to start with asking you to describe your family background along with any childhood and adolescent experiences that may be of interest.

Crandall: Well, I was born in a small town in Michigan - Pinconning, Michigan. My father was the local banker and my mother had a furniture store. I was the only child and spent a lot of time just reading. There wasn't any television then so a lot of my background really is by myself reading a lot until I got active in high school activities, did a lot of extracurricular activities of all sorts. I guess my interest in social issues began with a teacher named Merle Bird who handled the history and social studies area of our high school curriculum and was a very active intellectual himself and highly devoted to his students. Along with acting as a coach for our debate team, which I enjoyed doing a lot, I saw a great deal of him and he was a very stimulating person. As one to question one's assumptions, helped form, I think, a kind of humanitarian sort of socially aware kind of approach in most of his students. I think it was probably his influence - he had been a University of Michigan graduate - that aimed me at the University of Michigan, I suppose. It's interesting now that I see young people having to make applications to a variety of institutions when they're ready for college; I didn't do that, I just assumed that I would be accepted, that's the only application I made. At any rate, I spent my first two years at the University of Michigan, actually in premed, and then married, at the end of my sophomore year, Vaughn Crandall, who was a year ahead of me in school. The Second World War came along about that time and he was in the enlisted reserve corps and was inducted in a station in Texas so I followed him there and finished my senior year at Texas Christian University, which was the closest school to his camp. I had switched majors into education and English because we assumed that when Vaughn came back from the war he would be going to graduate school, and I thought I had better get some kind of a four-year degree that would allow me to help with finances while he went back to school. Although there was the GI bill, we also wanted to start a family. We had been married some time by the time he came back from the war and so I stayed home then for - gee, we had three kids - until the late '50s any way. Let's see; is there any more about background that you wanted to know?

Eccles: How did you meet Vaughn?

Crandall: Oh, well, in my senior year in high school I was a cheerleader and Vaughn was in college at that point and he came home to watch his old high school team play against my high school team in a tournament and he somehow managed to wiggle down into a seat next to the cheerleaders' position and we got talking and so forth.

Eccles: So you knew each other before you went to the University of Michigan?

Crandall: Yes, we did, and the old fashioned word would be courted over a couple of years. We were very young when we were married. He was just 20 and I was just under 20; I was still 19 and I think we were committed to one another long before that, but it was unusual to marry that young in those days. There were very few married students in college, in fact, at that time. At any rate, we put it off until the onset of the war in '41 with Pearl Harbor and so forth. It was kind of a rationale we could give our parents for marrying that early. So we did and I spent a year in Texas, as I said, going to Texas Christian while he was there at Camp Walters, and then he was shipped overseas and I came back to Michigan and taught for a year in a little town called Gladwin, Michigan; taught English and speech and American lit and so forth, and at the end of that year when I was requested to sign on for another year's contract, I decided that I wouldn't do that because his letters indicated that he thought he might get home within a few months, and teachers were in such scarce supply that I thought it would be a greater hardship on the high school that I was teaching at if I left midyear than if I simply didn't take a contract in the spring where they would have the summer to find someone to replace me.

So during that following summer and fall my grandfather was quite ill and he was at the University of Michigan Hospital. And while I was going to school at Texas Christian I'd taken nurses aide work, and nurses were also in scarce supply, so I went down to Ann Arbor and stayed nearby so that I could make my grandfather as comfortable as possible and help out a little bit there. While I was there I looked around the hospital for some kind of a short term job that I could do until Vaughn came back and I did, in fact, find a position in the Neuropsychiatric Institute as an intact interviewer; I was really employed by the Veterans Administration. The veterans who were coming back who were having difficulties adjusting and such were sent there, and I really had no training for that, but they gave me a little outline of topics to cover and so forth, and so I did that until the end of November of that year when Vaughn did in fact return from overseas. Then Vaughn went on to graduate school at Ohio State in clinical psychology but his mentor, Julian Rotter, was heavily oriented toward research and I think Vaughn felt more comfortable - well, he did both actually, he did do some clinical therapy work but mostly he began to get interested in developmental and there wasn't any real field in developmental yet in those days.

Eccles: What years were these?

Crandall: That would have been '45, I say, '45 through '49. Yeah, that's right. In the meantime, I was having our kids and I did work briefly in the admissions department at the Ohio State University Hospital between kids, but then Vaughn's first job out of graduate school was here at Fels Research Institute for the Study of Human Development and we moved to Yellow Springs. I remember as we drove into the town there were lots of old fashioned buildings with false fronts and it looked kind of like a western movie does nowadays and was very reminiscent of my hometown in Michigan, and I thought oh, gee, are we going to be here in this tiny little town again? But anyway, we settled in and I really loved the town after a year or so.

Eccles: Let's continue with your discussion of the relationship between you and Vaughn. You and he have had a unique influence together, as a couple, on the field. I mean, a lot of people site regularly Crandall and Crandall in various forms, and from what you've said now you it is clear that your careers were linked together in interesting ways. So, could you say a bit more of that and then we will go back and talk some more about your own early background and your own family's history.

Crandall: Thanks, it was kind of interesting. While I was in Ann Arbor and Vaughn was overseas I had virtually no social life and I would take home stuff from the Neuropsychiatric Institute's library to read, and I'd fill my letters with some of the interesting tidbits of what I had been reading just to have something to write and he got kind of interested in psychological dynamics and such, but his father had been a physician and, in the old small town sense, was out day and night and so forth and Vaughn

didn't want that kind of life, so he didn't want to enter a psychological field via medicine. So that's why he got kind of interested in clinical psych then and is why he went back to school and that as a graduate student. Actually, even before that he was an undergraduate major in English and that's why I switched over into English as opposed to some other field to be able to teach and supply some income while he went back to graduate school after the war. We postponed having our family just in case he didn't make it back; he really didn't want me to have to cope with kids alone.

So he did make it back, and I was always interested in what he was doing even during the years that our kids were little and I was staying at home. He would bring visiting professional colleagues home - they often stayed with us at the house - and the three of us would gab and I never felt put down or insufficiently educated to enter the discussion. He would discuss with me also, not just when other people were around, but what he was working on at the office and I think together we kind of decided that the achievement field really didn't have a very good theoretical handle hold for work with children for developmental work. So all the time that Vaughn and Walt Katkovsky and Ann Preston, who were part of his research team at Fels, were working on developing some constructs and operation methods to get at motivational kinds of variables in kids, and with a strong belief that the validity of those as motivational conceptions must be tested against observed motivational behavior - motivated behavior - behavior one assumed would be motivated. In other words, to the sort of normallogical network around these motivational constructs that would validate that utility, and the approach that they were using and that I joined in on later was heavily influenced by Julian Rotter's expectancy value theory - version of expectancy value theory, and after my little kids were all into school I commuted from Yellow Springs back to Ohio State and had Julian Rotter as my mentor also; he was still there at that time. So Vaughn, in fact, was one of the group of graduate students that came back shortly after the war who developed social learning theory - Rotter's Social Learning Theory with him and, as Rotter used to say when he referred to "we" in his first text, he literally meant "we" not just the editorial "we." But this group of returning veterans, mostly, and some of our other graduate student friends married and went to school simultaneously so there were some women in that group as well. They postponed having their children until after the both of them went through grad school. But anyway, so before I started back to school I tried working a little bit on Vaughn's project just doing some clerical work to see whether I could manage these three little kids and comfortably be away for a chunk of each day from the house, you know. It worked out okay and, in fact, I found that a wonderful - contrast is almost too strong a word, but variety of roles when I started going back to school and I felt as though the main reason I wanted to go back was that I was hungry for something to get my mental teeth into. I think as much as you love your kids and care for them and watch everything they do and so forth and are concerned about them and all, they don't provide the same kind of intellectual stimulation that one is used to in college or just in general. So I got interested in the kind of work Vaughn was doing and joined, as I said, for a year, I think it was, just doing some clerical work there to see if I could and then went back to Ohio State. I never got a Ph.D. because I took the courses - I was allowed to take whatever courses I wanted to combine toward a Master's in Psych - it wasn't even called developmental psych - because it was understood; Julian Rotter and the other faculty knew of our plans and that I was going to join Vaughn and the two of us would just work together and I just needed enough background to get started with. So it was kind of fortunate that it worked out the way it did because I got my Master's in '61 and was then working full time on the project, and then Vaughn died suddenly in '63. I had had at least a couple of years to get at the inner workings of the kind of project that was going on and get to know the people on the project. I was put on as co-PI on the last grant that he turned in and that was kind of fortunate because then when he died so suddenly there wasn't any difficulty in my taking over the grant that was supporting the work at that time, and I had a three-year chunk of time to get my feet on the ground and begin producing something of my own. I really didn't believe - when I got the first grant renewal okayed I almost thought - I wasn't sure if it was because of the work I had done, because that seemed like such a short time, or it was half way out of sympathy for this poor widow! It wasn't until I got the second grant renewal that I felt reassured!

So anyway, yeah, at the time the accident theory was McClellan's and Atkinson's - John Atkinson's Expectancy Motivational Theory - and I knew could quite get a grip on what the motive was supposed to be. It was defined as a tendency to approach success, and the motive to avoid failure was defined as a

tendency to avoid failure. Well, to me those were the dependent variables; those were the behaviors that the motivation variables should predict and it was comfortable, I guess, for us to think in terms of expectancy and value in a little different way stemming out of social learning theory. I was also extremely interested in the impact of social feedback on kids of all sorts and I think one of the questions has to do with did your children influence you; it's a long way at the end of the interview, but I hadn't noticed, you know, during those - let's see, that would have been during the Baby Boomer years, during the later '40s and early '50s, when my kids were born - *Parent's Magazine's* and other such advice to mothers was to reward your kids' successes and to ignore their failures when you are trying to mold and train their behavior. I tried to do that to the best of my ability, and I remember one of the kids saying to me when he made a mistake and I didn't say anything - I was trying to ignore it - he would say, "Mom, what's the matter? Didn't I do it right?" He assumed that because I didn't not give some positive kind of response that my silence meant something negative. That was the basis for my study on the reinforcing effects on positive, negative, and non-reaction that became my thesis study.

Eccles: Okay, you've been talking about how your family has influenced your research interests and I want to continue with that line of discussion and I would like to say a little bit more about other particular research mentors. I mean, you mention Julian Rotter and how important he was and how his view of achievement motivation was different than Atkinson's, which were the two sort of most popular theories at the time; could you say a bit more about how you saw the differences between those theories and also the role of Rotter in your own development? And also the other people on the team here and how they influenced your early intellectual interests.

Crandall: I don't think Julian had a specifically focused theory on achievement motivation. I meant Vaughn and I adapted his general social learning theory for work in achievement primarily. Shepherd Liverant was another influential faculty member there. He was working along with a couple of students of his, Doug Crown and Dave Marlow, on social desirability responding and that intrigued my interest and later I worked up a scale to examine social desirability responding in kids and a couple different versions of that for the littler kids and for older kids. They were working on it from the point of view of a personality constructing itself which they called "need for approval" because it's the link of people high in this social desirability factor were demonstrated in the kinds of approaches, social approaches, I think, that showed what they considered a need for approval. In my work with children on that I decided that more of the behaviors and correlated personality variables and beliefs and orientations and so on that were related to high social desirability responding showed more of the negative end of that approval motivation. It was more like an avoidance of disapproval as opposed to an active and overt seeking of approval. There were a number of ways in which these kids avoided evaluation so that I felt that if you were going to infer a need out of it, it would be more like a need to avoid disapproval, but I guess it's long-term impact on my work has not been particularly - I spent quite a lot of time working on parental antecedents of social desirability responding and behavioral correlates of it. In other words, as a focal construct in its own right as Shep and Marlow and Crown had been doing. But as I returned more to the achievement field I began to use it more as other people have used it as a possible covariant to get rid of some of that social desirability influence upon measures that were meant to assess some other construct. I have tried to be quite careful about that ever since and it's been used - the two scales - that is, the one for the older and the younger children have been used a great deal for that purpose. I never even kept track of those articles or anything because it was really a side interest and it was only to clean up whatever the primary interest of the study was focused on.

There's one question in here which I'll answer right now; it said something about was any of your work wrong-headed or went off—

Eccles: Right, there's a question here that says, which of your studies is the most significant and which contribution is the most wrong-headed?

Crandall: Right. Well, that worked on social desirability; it was solid and all but it didn't go anywhere.

Eccles: Why do you think that's true?

Crandall: Well, I think because for one thing society in general - not all of us in psychological-, clinical-, or health-related fields - psychological-health-related fields would say that a strong desire to be socially desirable, to do the socially appropriate thing, was so great, but I think society in general thinks it is great. And it takes a rather rare person to deviate from the accepted norms so most parents are eager for their kids to be socially desirable. On the other hand, achievement is both a positive and a negative both for the kids who are involved in it and for their parents and their parents in their own right, in their own lives. It's very complex and covers a lot of facets of life, they're almost never away from it in one form or another because many avocational interests become achievement kinds of activities as well. So I think that's why I felt that taking all the time and energy and stuff to track the antecedents back from adulthood, being assessed in adulthood back through the files in the archives and so on - I did that also concurrently in childhood - those were studies I wish I just hadn't taken up the time to bother with.

Eccles: So if you were making recommendations when I'm actually asking you to make recommendations to scholars today, do you believe that it's important for people to include this social desirability measure mainly as a way of getting rid of some of the variants?

Crandall: I really do. I feel very strongly about that in every verbal measure, self-report measure, that we use is checked against social desirability all the time and either covaried out of its relationship to other variables or use the July scores once it's been removed from the variable of interest. As our field has gotten more comfortable about using verbal report measures again, at first, I remember the days when that was part of phenomenology, but now that we've become a lot more comfortable we realize that we need to get certain attitudes and such from the horse's mouth, from the person who's feeling them. But I still think that if those responses are being given to us solely as a function of trying to fit what the respondent feels is approved should be examined and removed if you can remove some of that variance.

Eccles: I'd like to pursue this just for a second because probably the biggest mistake in my research is having not done this and I'm becoming more aware of it. Can you give me an example from your own research where including social desirability as a covariant allowed you to find some things that you would not have found otherwise, that sort of gave you some new insights?

Crandall: Well, it's done both ways; sometimes it's a suppresser variable and when you get rid of it you can see your variable of interest shining through better and relating to the reason you had it in the study. But often times it is enhancing, it is enhanced. For example, in a recent study of - well, not very recent any more - the last major study that I did we were trying to get expectancy of success estimates from little kids age four and we were going to follow them longitudinally and did. But at any rate they, well, people had found that the females' expectancy estimates, and we did too, were often times not invariable but often times lower than males' expectancy estimates for the same tasks. Most of these were examined in the intellectual area; these tasks could be classified in that as opposed to physical skills or mechanical or something else. So one of the hypotheses was that females who wanted to appear socially desirable were mostly likely not to appear modest and would reduce their expectancy estimates below perhaps what they really felt they were capable of. Whereas males, where the culture assumes masculinity, assume that they should appear confident and competent and all that, so they would have a tug to enhance their expectancy estimates. And we did indeed find that was the case in kids the second year of that study when they were in kindergarten. Females' expectancies correlated negatively with their social desirability scores and males' expectancy estimates correlated positively with their social desirability scores. Now fortunately, when we removed the variance due to social desirability the phenomena were still there but those expectancies were related to and so on, but I felt as though we now had a clearer picture as why and it wasn't just what they were giving to the examiner, for the examiner's approval.

Eccles: Great. I think I am going to go ahead and finish our discussion about your personal research contributions and then go back and get more information about your own background and your family's background, but let's follow these issues. What continuities in your work do you think are the most significant? We've talked a bit about how it was thought that there was too much time spent on social desirability itself as a characteristic as a covariate control measures. What do you think are the strongest continuities in your work that you think are the most significant?

Crandall: Well, everything was terribly planned. Each study would tend to raise questions, as many questions as were answered, and would pull us in another direction. It was all relative to achievement in one way or another. Well, we've been interested in the generality or specificity of achievement in the approach that proceeded ours; the Atkins/McClellan approach assumed a good deal of generality, and yet just common observation seemed to indicate that people tend to shy away from some kinds of achievement activity although they may engage heavily in others. We did indeed discover that was the case with little preschool kids on observations of them when they came to Fels and were coded; observers coded their activities in each of the several areas and found that they were not highly related to one another, in fact, if anything, were slightly negatively related. So if you engaged a good deal and engaged hard effortfully in one area you were less likely to do so in other areas. The kids were beginning to specialize a little. We were already beginning to weed out other aspects of achievement in their lives. What did you ask me? Oh, yeah, continuity!

Eccles: Continuities in your work that are most significant, and as part of that I mean, other shifts. I mean, you are now sort of talking about how it evolved in a naturally progressive manner each time building on the last. So as you talk about other continuities, can you also think about key jumps and changes that you made, based probably on what you found, and took you in a new direction?

Crandall: Well, one of the things that had intrigued me about this particular chapter in which I pulled together several studies that we had done at different developmental levels all showing this gender difference and expectancies and it made me wonder how that could occur because these were mostly in the intellectual area and girls were just as bright as boys in general IQ, and we couldn't figure out the reason and then I began to think, maybe those studies weren't done as young as first grade. But I got interested, I guess because so much was coming out on gender roles and the women's movement that made me think, in the literature, it made me think that possibly, possibly whereas boys were learning the math skill and trades and so on from their culture about what is assumed to be characteristic of males and, you know, all this competence and confidence and assertiveness and independence, so on, that those were the very factors that had previously been shown to be positively related to achievement striven. So I thought maybe the boy who acquired those most strongly or early would be the one who would both be striving harder and have a higher expectancy. He is supposed to be competent simply, not by virtue of feedback particularly or that expectancy be from, but part of that expectancy might come from the fact that just by virtue of his maleness he was going to be particularly competent. And little girls who were picking up the feminine traits supposedly as characteristic of their own gender and of themselves might be in worse shape because they would be giving away those achievement, fostering traits to the other genders. So characteristics of femininity might nurture in some gentleness and cooperativeness and all this are not as much related - might be neutral to achievement or even possibly negatively related to achievement we thought. So this got us going on the relationship between gender role acquisition and achievement and development in the early years. The reason we started at about age four was because that was about as early as we thought we could get with some of these expectancy and value and so on indices, and we worked hard at that. We piloted that for about three years with different versions and different groups of kids in 16 nursery schools and day care centers around this area before we started on that study. It isn't that we ever abandoned work on achievement at all, it's simply that it got broadened to examine it's influences from gender roles more. Instead of simply noting gender differences which had occurred all throughout our work constantly, we wanted to try to explain why those might be there.

Eccles: That pretty much answers the question on the - or starts to address the question on reflecting on the strengths and weaknesses of your research and theoretical contribution, the impact of your work, and its current status. Do you want to say some more about those topics?

Crandall: Well, I don't know. I think possibly we provided a handle hold for others to begin some research with kids. There had been a few studies before that - Marian's work on independence training - but not much before, and there really were no measures to operationalize even those broad global motives except a doodles kind of—

Eccles: Okay you were talking about the measures that didn't exist for children even up in the very constructs that were linked to achievement. Can you say some more about how you operationalized those constructs and developed measures?

Crandall: Well, because we wanted to work as young as possible with children, we didn't lean too heavily on a lot of verbal measures. We tried to arrange - well, for example, with expectancies we would arrange tasks of graded difficulty level, a given task that is in several levels of difficulty, and then asked the child to point to the level that he or she thought that they would be able to accomplish when tested later. That was kind of concrete and it did require some verbal instruction, but all the child had to do was point. Now we've gotten caught up on this too in that at one point we did what Janet Spence and Bob did and asked for degree of things by using smaller and bigger and bigger boxes to indicate "I'm a lot like that", okay? We found that what children often used it for was the largest box was to deny that they were not like that, to vehemently deny that they were not at all like that. So we had to then go back and ask them verbally, which do you mean; you might as well start it verbally in the first place. But anyway - oh, I think you asked me about the attribution approach and—

Eccles: Well, we will get to that in a minute.

Crandall: I'm sorry.

Eccles: What do you think are the biggest impacts of your work? For example, we talked earlier about issue of expectancies and values; so that long term impacts of some of your work.

Crandall: Well, I think what people know most about is the Intellectual Achievement Responsibility Scale. We have an archive I guess you'd say of a few thousand studies that have been done with various versions of that and updated the norms for it after it had been out a while and so forth. I really am not wholeheartedly interested in that particularly because of the society that we live in. Most kinds and most individuals with whom we relate are heavily indoctrinated with the idea that they are responsible for what happens to them and so that people who feel external that we would expect that to happen in minority groups that we are not making advances. People that were stuck in difficult life circumstances and so on will feel that they had very little control over what got imposed on them and their circumstances, but for most of the kids in the public schools that we worked with the variability due to the internal external control measures was always pretty modest; but as I say, I do consider it a setting variable. That is, if you don't believe that you caused the outcome not only will you not approach it trying to attain it but you aren't even in the achievement field.

Eccles: In my estimation, some of the work that you did on attainment, learning attainment value, highlighting attainment value is an extremely important component of achievement was probably one of the most important contributions at least to some of the work that I've done subsequently in the field. I mean, as you know, Atkinson essentially by the way he defined values ended up shifting focus away from values, an important part of the expectancy value models because it was essentially the inverse of expectancies, and so people who were working off of the Atkinson kind of model for years didn't pay any attention to values whatsoever, and then we got into a very cognitive mode in motivation looking a lot at expectancies and looking at attributions and other things subsequently and this whole notion of there being a variety of other influences on behavior, especially achievement-related behavior, disappeared from a lot of the adult work and was

maintained in your work with kids and that was where that work was being done all through the '60s and in the '70s. Do you want to say something about how important the incentive value is in your view now and where it's gone and how you were able to maintain that as a continuity through your work when it was disappearing in a lot of the adult literature?

Crandall: Yes, incentive value as a negative reflector of expectancy didn't add a lot but we did kind of assume that the motive constructs fell into - in fact, something Atkinson wrote, I forgot now - sorry, I should have that reference - but placed the motives in the value portion the expectancy value theory and because - see, that was precognitive work and because we believed that there is more than the apparent ease of a task which increased expectancy and that whole long history. As I said, we come from a social learning background, so learning history that lead up to that would seem to provide individual differences in how one would see a given task's difficulty level. So to ask - because of the prevalence of the motive constructs in the general field, we began to emphasize the expectancy variable, the cognitive part of it. I always felt because you could get an objective kind of - you could build in experimentally - you could build in an expectancy, modify it, and so forth that I could get my hands on it better. But the value part of it was absolutely essential, there is no way in which that expectancy can operate unless it's mobilized by the value, and the value we felt also did not come simply from the ease or difficulty of the task, the incentive value, but rather from a long history of all kinds of modeling and reinforcing procedures that had happened to the kid. For example, my own three sons are all extremely interested in sports of all kinds and my husband was, Vaughn was, and so they were either playing whatever sport was in season or watching it on the tube or talking about it or something, along with social action, that was another general family concern. But it's no wonder, I mean a kid whose daddy - a boy whose daddy is glued to the tube watching such things, can hardly miss such things, can hardly miss the importance with which his father views athletics. So one has to hope that he has enough skill and high enough expectancy to allow him to approach it comfortably because he can hardly avoid having absorbed the value. So value comes from all different aspects of our society and it's going to differ some by different social groups, different ethnic groups, the focus of what is valued and to what degree, and teachers and everywhere. It is because of the social nature of the approach that we began to think of a lot more antecedents, a lot more influences on the central motivational constructs which the kid approaches the task.

Eccles: I can think of lots of ways that your work has impacted current theories and links to current theories. Let me just mention a couple and you can comment on how you think the work has influenced this new work and your evaluation of that impact. Let me first go with the attainment value notion. I know that Aletha Houston used that concept a lot in her early work on gender, we've used that in our work on gender; how do you evaluate the attainment value in these directions as people have taken it—

Crandall: I think it's been terrific the way you've broken down value into more concrete - we thought of it; you were very right, Jackie, in, oh, something earlier which you wrote about attainment value being what you needed to do or what you needed to be good at for sort of your own self esteem kind of. I guess that's the way we had, without being as concise as you were, had been thinking of it, but you broke off another kind of attainment value and that is utility value and I thought that was a wonderful addition because it would mean that something that was meaningless to accomplish for the person's own self-esteem, for example, passing the foreign language exams for the Ph.D., you have to have enough value to keep you approaching this subject matter and learning those languages even though you didn't particularly care about studying French as such. So there are probably oodles of things in life; I can think of all sorts of mundane jobs that probably have lots of value attached to things that aren't central to a person's self-esteem at all, but they are central to getting your paycheck, or degree or whatever.

Eccles: Another way - that brings up then intrinsic motivation. I mean, another value that we talked about and certainly others have talked about is more emotional is the affective, the joy one gets when one engages in a task. What do you think about that direction of work?

Crandall: Well, I think it's one - this is the part we missed before, right? I've tried to figure out all the ifs, ands, and buts in that field - intrinsic reward is supposed to damage initial intrinsic motivation if it has this, that, or the other aspect to it but it kind of assumes as a baseline that there is intrinsic motivation and, while it's true in babyhood, kids are pretty curious about most everything. I really think some of these other socialization factors cut down on some of that interest and increase some of that interest, other interests as kids go along. So there's got to be something if kids don't begin with an intrinsic interest in something but it's something essential for them to learn. They have got to get there some way, and so some of those constructs like utility value I thought were very helpful, very helpful. Once a kid does engage in something, maybe for an extrinsic reason that he would not have chosen otherwise, once he begins to attain if he sticks with it long enough, attains some competence, minimal, and then a little bit more competence he may begin to value it in himself as a goal of attainment for an intrinsic reason.

Eccles: Another direction that your work - or, another line of work that your work has had a major influence on is the work in attribution theory, and you talked earlier about the IAR and the social achievement responsibility scale. That scale certainly or those ideas were certainly picked up in some of Wiener's work that you had already mentioned about the stability construct. That work was also picked up by Carol Black and her reconceptualization - helplessness, and that's the orientation. And also had a big influence on John Nickels and how he has gone now in the direction of thinking about goals for engaging in different kinds of work. How do you think about your influence in those areas and that direction as a new direction that's built on some of yours and Vaughn's original ideas?

Crandall: Well, the focus on goals I think in general is probably very good. A lot of these constructs meet each other about 30 degree angles; they kind of halfway overlap. But anyway, I'm trying to think of all the different labels that had been given to those goals by different investigators, and you were talking about performance goals versus task-inherent goals and so forth; ego focused and task focused, learning versus performance.

Eccles: That's correct.

Crandall: Where do these come from? I think the antecedents of those is a real important way to go. And the ability to move back and forth between them as your life circumstances require because hopefully most of what you are going to spend your life at you want to be a learning goal or an intrinsically motivated one, whatever one wishes to call it. But there may be objective circumstances where you must be able to move over and take on the requirements to meet those goals as well. The field is so complex, I would think we have only begun to scratch the surface and yet the more complex it gets the harder it is to get your head around all of the different approaches and see areas of commonality and constructs that are simply being called by different names but their operations are the same as ones that were already present. So, I just don't envy people in the future.

Eccles: Well, as you know, I just finished doing the motivation chapter for the most recent Carmichael's Handbook, and I had gone back to my prelim paper that I wrote in 1971 reviewing the status of achievement motivation at that time, and of course most of the work that I talked about at that time was yours and Vaughn's, yours primarily because I was also interested in socialization and social learning relations, and I was amazed that the conclusions that I reached then were basically quite similar to the conclusions we reached after reviewing all the work that's been done since 1975. There's a tendency - what goes around comes around and I was refreshed in doing that to go back to reminding myself of some of the powerful - the theoretical power in the constructs that you all had been dealing with in the '60s and the '70s and now those are still the basic constructs that we are talking about though we've refined them, we've elaborated on them, but the power—

Crandall: In many good ways.

Eccles: I think in many good ways, but I think the power, the real theoretical power was there then and we would be well served in some cases to simplify our complexity when we go back to the original notions.

Crandall: Well, somebody will. I think every now and then you get an article or a chapter about old wine in new bottles and somebody will begin pulling together some of these concepts and some of the findings that have been obtained with them and how similar these findings are in spite of the fact that it was called self efficacy here but expectancy there and so on.

Eccles: I hope so. Actually, I have been talking with Herb Marsh since he is so good at doing all of these psychometric studies, if he'll take all these measures and do a grand study to show us how they factor together or what's really different or what's really the same. Well, before I leave this I want to give you a chance to say what you think published and unpublished manuscripts best reflect your thinking about child development. What ones would you want to be included in - if you were to tell the next generation of scholars which ones they should read, what ones would you point to? I certainly would point to the '69 article that you wrote—

Crandall: That chapter on—

Eccles: But what other ones would you want to make sure were on a must read list?

Crandall: Well, I'm still hoping to pull one out of the stacks because we do have some quite interesting - just to give you a tidbit - well, we spoke of it last night, but I'll get it on the tape too. We started with a naive assumption that boys who were higher in masculinity would also have the higher expectancies and values for achieving and little girls who retained more of those as characteristic of their own sex stereotyped them to their own sex and to themselves would be, relative to other girls, better off. What we found instead was that, you see, we were forgetting developmental issues because I was speaking more from what we found with older kids and what the literature had produced with adult polished samples, but for little kids who are going to school for the first time, school is comprised of not just achievement tasks but of learning the pupil role. Learning to be quiet and attentive and compliant, the very thing that you might attach to the feminine role, so that what we found was that both feminine and masculine stereotyping to one's own sex were predicted of greater intellectual effort because they are combined. I don't think kids separate them very cognitively yet when they are little. So there's a developmental difference, you know, that's going to probably drop off that feminine stuff as they get older. I've forgotten the rest of the question.

Eccles: Well, that's an unpublished manuscript; which of your published manuscripts do you think best represent your thinking?

Crandall: Okay, as far as my thinking goes it's an unpublished one. It's one that I've used as a colloquium at different times and it's sort of a cognitive social learning approach to work on achievement, and I gave some of it way back at the first - that we had in Ann Arbor and I've since modified it a couple times and stuff but I never felt that I had enough solid data for all aspects of it to back up all aspects. One of the difficulties of working in a research institute as oppose to teaching is that you don't have graduate students to carry on with portions of the work so that there's actually a group of you together. All you have is the number of research assistants you can employ.

Eccles: Well, if people wanted to get a copy of that manuscript from you, could they?

Crandall: Well, it isn't very well annotated but I've still got copies hanging around

Eccles: So they can write to you. What about a published piece? What published piece would you say to people?

Crandall: Let's see. I don't know. I did a couple on the long term antecedents of internal/external locus of control in adulthood and the distinction between academic and intellectual effort in adulthood and that later was a Minnesota symposium, I think in the fourth volume of that series, and it was co-authored by Esther Battle. Internal/external control one was, that was in some book in 1983 - I can't remember in what volume.

Eccles: Okay, we will make sure that the references are included at the end of this interview.

Crandall: The reason that I would mention those is I don't think the internal/external control stuff, for most of us in this country, I don't think it attains enough variance to be - one can almost assume that in most cases, in most settings that you are likely to be testing in, that the kids are going to believe that the outcomes are a function of their own behavior, so I wouldn't recommend particularly those, all those IAR articles; there's lots of those that have to do with parent effects and other things too, but I think the reason I mention those long term adult ones is because there's not as much available to show the changes over age in what area antecedence behaviors, behaviors early in childhood, are going to wind up to produce so much later in adulthood. We were surprised, I remember, and this academic versus intellectual distinction seems to hold some water to sort that out.

Eccles: Could you be more specific about that?

Crandall: Well, the academic background sounded more like a moderately conforming kind of kid who would play activities with their peers, but the intellectual kids were always kind of curious and somewhat out of bounds, challenging authority and so on, and it got suggested to us by, in the '60s where I was interviewing a bunch of Antioch students and discovered that not very many of them would admit that they worked for grades, but they wouldn't want to be busted in an argument, in an intellectual argument, for anything. I mean, they would buy for, oh, things like poetry, get poetry in the school paper and all sorts of other kinds of intellectual kinds of activities. So I began to think that maybe because academic had more of a linkage with the straight society that it turned off some of the other kinds of kids. At any rate, the kinds of kids who wound up having highest effort in those two fields did have quite distinctively different antecedent histories and by making that break we were able to get quite a bit of consistency between the male data and the female data within each of those fields, and that has been so hard for us to do before.

Eccles: Given that you brought that up, that study, can I ask you what do you think now looking back over all of your studies, and you mentioning one characteristic, and I'd like to know whether you think that's a personality characteristic; is that in the person or is that in the situation or in the interaction between the person in the situation? But also, I'd like you to say what do you think are the most important - in the achievement motivational area what are the variables that are accounting for the most, provide the most, explanatory power? So first, do you think of this characteristic you just mentioned as a personality characteristic that's stable?

Crandall: No, no.

Eccles: How do you think of it?

Crandall: I think of that as a situational split. Well, guess if you put it back on the person, yeah, it would have to be because people who tend most to approach academic praise so it must have a tendency, you know - yeah, and their history is likely to be different from ones who go after intellectual things. What would I consider most colorful? I think in general, I think probably it's a matter of measurement, I think, with the value measures and the different kinds of value that you speak of and are harder to get and the expectancy measures are quite simple to get. Well, with little kids for instance, many people had found that kids would hit the top on every expectancy measure, little kids would, so that you got little variability and the scores were all clustered near the top. Well, we didn't have any difficulty with that with getting them centered near the middle or just slightly above the middle of the range because they felt they were going to be tested later on them. They

were novel tasks but they thought they were going to be tested later on them so it held their expectancies down a little bit from being so wish driven. In value where we tried all kinds of things because value comes from such multiple sources, as I was saying, so for the little kids we tried we would line up a row of ten pennies in front of them and then some very accomplished thing that they thought was beautiful, a beautiful vase for instance, this would be for the artistic area. We'd say, if you were able just by paying for it to be able to make a vase like this how many of your ten pennies would you give me, now the rest you can keep for yourself and those you can use those to buy whatever toy you like afterward. So essentially you were trying to get rid of the, that amount of money meant more or less to different kids by providing a variety of things that they could buy with it. Of course, when they got through they always had plenty of money to buy what they wanted. But anyway, it pitted the pennies and the potential prize against the skill, having the skill, and that turned out to be our best measure. But as far as measuring it later on, you can't do those kinds of little shenanigans.

Eccles: Well, let me get your - step back away from data and set aside the measurement. What is your, in your heart of hearts, your feeling now about which ought to be the most powerful variables given that we could measure them—

Crandall: Well, I still think those are. I really think that and a third variable called standards because given an objective level of expectancy maybe subjectively mean more or less to the individual. Some people have to get all As regardless of how competent they feel because their parents expect it of them and sometimes apt to be the best in the case to get parental approval. I really think those two, if one were working in a different society like in very poor countries where most people have such a hard life, are so much at the whim of powerful others above them that then the locus of control issue would probably provide more. Learned helplessness, I don't know how to fit that in anymore; I used to know! I'd have to go back and review it.

Eccles: Well, I have one more question, then we will take a break. You commented earlier that focusing on kids when they are having a developmental perspective was rare when you started your work; how do you explain the fact that you went in that direction?

Crandall: Well, I think we were always - well, we were having our own family at that time. Vaughn used to say, now when we get to be old people we'll move over into gerontology, take advantage of our own participation in it. But anyway, I've always been interested in why and if you want to know why you aren't usually able to sort that out simply from current variables, and if you have some way of either starting and then following a group longitudinally, we've been fortunate enough to have data on them when you wish to assess them and then sometimes maybe we can answer some of those why questions. I'm awfully pleased - there is a question in there about where the field is going and what are you pleased about and what are you unhappy about - is it okay with you if I go off into something?

Eccles: Sure.

Crandall: Okay. I'm so pleased to see so much more longitudinal work. I take it as our mission in developmental that we are supposed to be able to understand the reasons for change in their direction, changes for their direction, that's what characterizes developmental as opposed to simply child psychology. Without longitudinal data you really can't address the question of what causes change of what kind because you've got to observe the change over time. It may be a short interval or a long interval. So anyway, longitudinal I think is really the method of choice for developmental work. One of the things that I am less happy about that I see going on is a heavy focus on genetic determinants of personality. Well, not only personality thoughts but also psychological outcomes. Because well, as the attributionists would say, that's more generally considered a stable factor and no matter how much we say it's an interaction of the environmental input and this genetic predisposition which results in the outcome, as soon as parents hear that something has a huge - the genes have a huge percentage of influence on this outcome, I'm afraid that they might quit trying to modify their parenting behavior or whatever problem brought them to get that analysis in the first place.

Eccles: Do you think that you will also effect—

Crandall: Oh yes.

Eccles: Since we are on this topic why don't we end this session and take a break, but first answer what are your hopes and fears for the future of the field?

Crandall: Well, I guess I hope that those trends continue in doing longitudinal work as our population grows. I don't know what the figures are in developmental nowadays, but the whole field of psychology in general has mushroomed so that it's hard to think that in the olden days when SRCD was young I remember at one point in the '50s we had SRCD here at Fels and at another point not long after that there was an off year one held in Detroit and both of those were such a joy to go to because only one thing was going on at the time. Everybody sat at big long conference tables and listened to things that they normally would not have read about and got educated. The camaraderie was great and you knew everybody, so I'm sorry to see those days pass and yet I'm very happy that more and more young people are interested in going into developmental, so it's a mixed blessing.

Eccles: Let's see, I'd like to begin this session with a bit more information on your background. So could you tell me a bit more about what it was like where you grew up and what your parents' histories were and some grandparents so we sort of get a view of your intergenerational lineage and how you came into this field?

Crandall: Well, my maternal grandparents, Grandpa Harris, was one of the entrepreneurs - really a stereotype of the entrepreneurs of the later part of the 1800s. He came up to that area around Pinconning in Michigan and lumbered, had a big saw mill, lumber mill, and then he began starting small businesses. He had a dairy and a hardware store and the first car agency in town and a bakery, and he either gave or sold - he sold some of these things to other people in the community but he gave each of his three daughters one of the businesses that they chose. My mother chose a furniture store where he had started. So she was, all my life she was busy. It was only across the street from where we lived so she was handy but she wasn't around the house. She didn't have a college education, she went from high school to business school, but her real taken was in music and she did a lot with her music nonvocationally. But she was good at what she did and did a lot of interior decorating along with her furniture store business and people came from all over northern Michigan to come down to Ferns Furniture in Pinconning. Anyway, my dad—

Eccles: Wait a minute. That was very unusual that your grandfather would have given these businesses to daughters.

Crandall: Well, he only had daughters!

Eccles: That was lucky them then I guess. How were the gender role relationships in that family; I mean, how was his relationship with his daughters?

Crandall: He was very close to his daughters. I think their mother, my grandmother, was very close to us grandchildren but I would say as far as his own daughters were concerned, and my mother was his special pride and joy, but he was also close to the other two girls too. So one of them and her husband moved into the bakery business that he had started and another one and her husband started into the hardware store and gift shop and then each of them, as they expanded, tried to buy him out of what he had given them in the first place but he wouldn't take it. Anyway, so they're really a family of just retail merchants. My dad's father had started a bunch of small banks. Think we recorded that part, didn't we?

Eccles: Yeah.

Crandall: And when my dad came home from the Second World War his dad insisted that he take over the bank in Pinconning and he did and made quite a success of it but he had not college training either. However, it was never any question that I was going to college, nor my cousins, of my mother's other sisters. There was just that much of a generational change I think and, in fact, my mother's two sisters themselves had gone to college and my dad's two sisters had also gone to college. It's just the particular circumstances in my own mother and dad that didn't and they didn't. I don't know. It was assumed I could do anything. I've often thought gender roles became more inhibiting for girls, I believe, later than when I grew up. It was after, I think, after Freudian teachings got around more that girls were supposed to be satisfied with a lesser role, a homemaker nurturing role and so on. But as I grew up all of my peers in high school were planning to go off into one kind of vocation or another, college or business school or something.

Eccles: Do you think that had to do with being in the Midwest?

Crandall: Well, possibly, I don't have any way to compare that, not having grown up in the east or any place else. And it was assumed that I could be whatever I wanted to be. I didn't have to be a nurse, they thought my plans to start into medicine were great. Interestingly enough my mother and dad were members of a group of, oh, I would say half a dozen couples who did a lot of things together, took field trips together, played cards, and so on, ate over at each other's houses and such. I was the only child of any of those pairs and I think it was because birth control was just beginning to come in at that period and people felt that they were smart and didn't have to be burdened with kids. Kids were not thought of as something you wanted, they just came along before that. Anyway, I was the apple of everybody's eye, they were wonderful to me. So anyway, then there was a doctor in town who was important and was very good friends of my family and he enjoyed talking over stuff with me and I think he was another lead into the premed.

Eccles: I know that social activism has been a big part of your life, social concerns and other issues. Can you comment on what political and social events might have influenced your research and writing, how political movements influenced your thinking?

Crandall: I mentioned before the influence of the women's movement, I think. I think more about the general acquisition business for children. Other than that I can't - well, when we were doing the internal/external control work I got data from there were two black universities nearby here, Central State and then a community college. In the early days, Wright State didn't have any residence halls and it was considered - it was called a university but it functioned like a community college, so I got some data from there and so on. And our interest being in comparing black kids focus of control you see because this was about academic matters. Vaughn was a very heavy social activist outside of his professional field and two of my sons are, but I can't think how it influenced my work.

Eccles: I wanted to switch now to a discussion of your institutional connections. You've worked or been connected with the Fels Institute for most of your career and, as you said, even before you went back and got your master's degree. Can you comment on what it was like to be connected with Fels and what Fels was like as an institution over this period of time that it has been very important to developmentalists?

Crandall: Well, Fels was begun in 1929 by Lester Sontag as an idea that Arthur Morgan and Les had in common that they would follow people and just see why individuals were learning the same thing but turned out differently.

Eccles: That's your environment.

Crandall: Right, so they persuaded Sammy Fels, the Fels Soap Company, to start the Institute and Les was its director from that time forward until he retired in 1971. So he had an unusual philosophy that's different, I think, from some of the other separate free-standing institutes. He believed in choosing people that he could guess had new ideas and energy and could develop a line of research

that would be encouraged outstanding and there wasn't a central mission to the Institute. There was a separate longitudinal staff of people who were home observers and who went out into the homes every few months and so. I know you don't care about that whole program, but they gathered the data and put it in the files. Then the kids were brought in twice a year until they got into grade school and then once a year in the summer for observation and free play and any of the Fels staff members who wanted to tie in data that they would have on their parents into the kids data of the kids earlier data into some current measure of interest that they were working on could make use of these youngsters that were coming anyhow. However, I think it was a disappointment that they weren't used a lot; my guess is that maybe I've used them as much as anybody. Jerry Kagan and Howie Moss did that birth to maturity book but it wasn't as heavily used as it should have been, the files, and then when Les retired and Frank Falconer came he really didn't understand the importance of those data. So the longitudinal program and the staff members who did nothing but collect longitudinal data, there were probably about ten of them, it was kind of let go and instead money was invested in a branch in England and another branch at the University of Cincinnati.

Eccles: What was his vision?

Crandall: That was hard to tell! Well, he thought we should be more internationally minded. But anyway, both of those branches fell through and in the meantime the longitudinal program got dropped except the people in physical growth, after a hiatus, picked up again with a lot of external funding and continued that part. That part still goes, not under the name of Fels Research Institute, which is no more once Fels was merged into the Wright State School of Medicine in a few years; in 1984 the School of Medicine did away with the Institute as a separate entity. I don't think they ever quite had an appreciation either of what those data could yield because they were pretty complete and pretty rounded. In fact, one subject came back yapping her file data and wanting to see it and she was going to sue the Institute if she didn't have it and Wright State was ready to burn the data to avoid that, but anyway that didn't happen. At any rate, we weren't asked to focus together on a particular aspect of development because Les believed that you couldn't do that to people, that you had to let them go wherever their own curiosity lead them. He was always quite proud of Fels as a "seed bed" for a number of people who made big names in the field.

Eccles: Could you mention who a few of those people are?

Crandall: Yeah. Jerry Kagan, Howie Moss, Al Baldwin, Mike Lewis, Bob, Stanley in physical anthropology, the fellow who's just retired from heading up this physical anthropology branch that has continued, Alex Roche.

Eccles: You have said that the archives had not been used as much as they could be; do you think they will be in the future?

Crandall: Well, one of the difficulties currently—

Eccles: Let's reframe it; are there ways that the field could take advantage of the archive that exists in ways that we as a field should be paying attention to the archives.

Crandall: Well, that's going to lead me to the same thing! They are physically housed in the other building where the physical growth people are. They are very afraid of people getting upset about their own archival data and with their right to know, to see it and so they are so afraid to have the data used very much really, except the physical data. People have come and made minor use of it but they don't want copies to be sent anywhere. Most people can't come and go through such scads of it, you know, for long periods of time right here. All of it would have to be deidentified and that's very difficult to do and still maintain the linkages you need to know about the family members.

Eccles: That is in part a result, don't you think, of the original decision to base the study in a rural area that makes it easy to identify participants. I mean, as comparison, for example, with the

Berkley Growth Study where it's probably those data have been more accessible in part maybe because of the urban center and it's much harder to identify, or easier to mask.

Crandall: Well, I really think these people were guarding it so carefully coming from a different discipline, just are overly frightened about the kind of data that were there. They are not in psychology, they don't realize that there is some very normal stuff there and they don't realize the value of it; there is not appreciation for the value of it. So, one, I think they are overly cautious and, two, I think they under value it. The university won't insist over and above their heads because they too don't understand, so they don't want anything to rock the boat.

Eccles: I think that's a concern that's common in longitudinal research and as a field had not worked out exactly how to deal with it, so it's not unique to the Fels data. I know there are similar concerns about several of the large scale longitudinal studies and how much of the data they will make available to secondary researchers, so I think this is an issue that the field in fact needs to think about because it would be a shame to lose the archival data. It's so expensive to gather and difficult to gather that we really have to grab what - maintain confidentiality and anonymity and at the same time make these kinds of data available. So I can understand the concerns. You mentioned a little bit about how Fels changed with changes in leadership. Are there other aspects of how the environment changed over time that effected your research?

Crandall: The Fels environment you mean? Not really, probably because I came in on Vaughn's coat tails and already had grant money to work with. Everything was done by Les and the administration made sure that you had what you needed in terms of physical plant and so to do whatever it was you had planned to do and he of course got Institutional grant money as a result of the individual grants. Everyone was expected to get their own grants but that Institutional grant money provided a safety net for anybody who might be out of funds temporarily or who wanted to go off in a new direction and needed some time to get some seed work done. I didn't have to call on those, fortunately, but it was a comfort to know they were there and people did count on them. He was a great, he almost had a sixth sense as an administrator about how to pick people that were going to push, were eager to—

Eccles: Move.

Crandall: Move, yeah.

Eccles: As you've watched your career develop and as you talk to other people who were in university settings how do you think being in a research institute made your career different; were there things in a university career that you wished you'd had or were advantages or disadvantages of being at a research institute?

Crandall: Well, there are lots of pluses and minuses. It was structured; the one thing that Les watched over pretty carefully was the psychology department, it was the biggest department in the joint and there were four or five of us at a time, each pursuing our own line of work. He wanted that kind of disparate not to overlap not to concentrate so that there would be, you know, theories on aggression and Ross Parke studying achievement, Bob studying modeling, and snakes and a variety of things. That meant that although we were good social friends we rarely took up each other's time professionally because we were really outside each other's fields. I did read some of other people's stuff but we didn't expect anyone else to spend any time gathering data for you or reliability rating or anything else; you had to get that within your own staff. So in that sense it wasn't as stimulating as it would be if you were in a university setting here, you had graduate students and you were kicking around ideas and you had other colleagues who were doing work close enough to yours' to be of real interest. I considered moving seriously about three times but my kids' roots were here and they weren't out of school yet and the physical facilities and the support you got from the administration for whatever your lab was situated just were too hard to give up; we really had a kind of plush setup for doing whatever kind of research we wanted. It didn't even have to be longitudinal, much less use longitudinal data, it could be anything of value.

Eccles: One of the differences you've mentioned is not having graduate students; now, you did have research associates.

Crandall: Associates, yes.

Eccles: Could you say a little bit about your role in training them or what would happen to them as they would go through your lab and go on their ways?

Crandall: Well, I had some who were simply bright young women in the community who would act as examiners and do all sorts of clerical things, punch in computer data and I had others who were taking a year or two off right after their BAs. Each one of those has gone on in developmental psychology.

Eccles: You worked with some postdocs, haven't you?

Crandall: Well, just John Nickels really, Paul McGee and John Nickels. But I was an external advisor and examiner for several dissertations for people from the universities and stuff. But most of the contact with other people was at meetings or when good friends came down to visit.

Eccles: Well, we'd all like to send our students to spend some time with you to learn from you! You also talked about that you needed to generate your own research grants as well as having some internal support. Can you reflect on your experiences with the research funding apparatus over the years? I know you've gotten grants, you've also served on bodies; how do you see the whole research funding apparatus in the United States evolve?

Crandall: I think we are getting more money into behavioral research than used to be by quite a lot. I enjoyed the work on the Personality and Cognition Review Committee and Basic Sociocultural Review Committee, I guess it was called, a good deal. I thought the evaluative processes were quite thorough and fair, as best I could tell anyway. And if none of us who were sitting on the committee at a particular time were very knowledgeable about a submission it would be sent to outside. Anyway, I thought it was good, I enjoyed it and I think we all worked hard at, and site visits were interesting. I didn't have any trouble getting my grants through and now I put whoever was on the review committees at those times through more because I wrote awfully thick grant applications!

Eccles: You can't do that anymore you know!

Crandall: I know! But in general I felt it was good.

Eccles: So you think it worked well.

Crandall: It worked well, yeah.

Eccles: And did having the backup support, you said that having the backup support provided some security so that if you were between grants you do at least have some security that your lab could keep going or that you could keep going. How important was that to you?

Crandall: Well, to me personally it was minimally important. I just didn't have any trouble keeping it going but I knew it was there, just knowing it was there was helpful.

Eccles: Did that help you recruit good people to work with you knowing that you - them having a sense of there being security; it wasn't totally self running?

Crandall: I don't think I ever recruited anybody during, they always were recruited at the beginning of the grant period when I knew what money I had to spend.

Eccles: Can you describe your experiences in applied child development research, or your role in putting theory into practice?

Crandall: I don't think I've done anything like that.

Eccles: Okay, takes care of that one. Let's talk now about your experiences with SRCD. When did you first join SRCD? When did you first become involved?

Crandall: Just to end that other question just a little bit more, I've always felt that our work is not too far from applied but the leap is not great particularly; the work on teacher influences and parental influences can easily be incorporated into parenting practices.

Eccles: Did you ever make an effort to make that leap or speak to those audiences?

Crandall: Yes, I did do quite a little speaking of parent groups and young children's - oh, what's that group - early education. I used to speak to them quite regularly and there were usually young mothers. Yeah, I did a number of those kinds of things but not research wise.

Eccles: How did they react to what you had to tell them?

Crandall: They were always interested. I think a lot of women who aren't working or who are working in some more dull field or something really want what I wanted; you want something to think about, something to tussle with. And I think they thought maybe that they got some information that was helpful for their kids.

Eccles: Did they give you ideas? I've always found that when I go talk with parents and teachers I come away with some of my best new ideas as they reflect on our data.

Crandall: Yeah, some of them. I do remember that came by when Vaughn - oh, he was trying to find out how much engagement each child in the study had in different achievement areas, and parents seem to define this engagement quite differently, and so he modified the structure of the - even if they were just showing some interest, before they had established any kind of standard that they were striving to.

Eccles: What do you think of the current movement within developmental to try to get developmental graduates more training policy areas or to try to get researchers to reach out and at least communicate with audiences?

Crandall: Oh, I think it's great. I really do think it's great that we let our knowledge more publicly used. There's no real benefit to talking just amongst ourselves. It's fun to talk amongst ourselves because you know what each other is talking about but I do think it's a fine thing. Well, that's why they built that requirement into new grants that you show the potential application of this.

Eccles: Okay, let's turn now to your experiences with SRCD; when did you first join SRCD or when was your first conference that you attended?

Crandall: I don't know. I thought about this before we started this because I don't have any documentation to backup when that would have been. While Vaughn was in graduate school I went to various conferences and APAs and Midwest - so we often had an Antioch student stay with the kids and I'd go. I suppose that helped spark my interest too.

Eccles: When did they have the first meeting at Fels?

Crandall: I don't know when that was but it was very early, it had to be in the mid '50s because I know it wasn't just before Vaughn died and that he must have been active enough in SRCD long enough to have suggested that we might have it here.

Eccles: What roles did you play in the governance of either SRCD or other organizations?

Crandall: I really didn't. I think I was program chair one year for SRCD. Oh, I frequently and almost always reviewed submissions for SRCD. I really wasn't active in the political administration.

Eccles: What about in the journals?

Crandall: Oh, yeah, I always edited a lot for all the journals, *Child Development* and *Developmental Psych* and several others, spent a lot of time with that and I kind of liked that. That also helps to broaden you, I think, when you have to really focus in on somebody else's problem in an entirely different area.

Eccles: You commented earlier on the fact that SRCD has gotten larger and that has both positive and negative consequences. Are there other important changes that you've seen occur in SRCD that you think were important to the field or important to you?

Crandall: Well, I think it's nice that there are subsections of it in the sense that that will meet the needs of people in those fields more acutely, more closely. That I also hate to see it so subdivided that we don't do what we used to do and that's got some cross information, cross touching of each other's research more.

Eccles: Can you think of any mechanisms that might help facilitate that better?

Crandall: Well, people try, you know between your SRCDs we tried. I don't - they weren't terribly successful I guess.

Eccles: They were more in some areas than others, I mean, they spawned their own organizations. Society for Research on Adolescence, for example, grew out of that. I think the infancy folks have created, probably fairly strong organization.

Crandall: That's great but the whole thing, I think of keeping it small enough so that you can hold single meetings at a time so that everybody if they are going to listen to anything goes to that meeting. You get more cross fertilization, more ideas for other sorts of allied branches.

Eccles: There's been a movement of late to try to make SRCD - I mean, it began as an interdisciplinary organization. It's heavily populated by developmental experimental psychologists despite its origins and there's been a strong push recently to try to make it more interdisciplinary again. How do you feel about that aspect of it?

Crandall: I think it's great because it might foster more interdisciplinary research per say. It's just always been an effort of SRCD and it still doesn't seem to accomplish getting too many people from outside psychology interim.

Eccles: Can you think of ways they might do that better?

Crandall: Not unless they had little sub branches like, oh, like SID or NAERA or like the subdivisions of APA that might pull in a few, oh, let's say people interested in dental facial development, just to pick out some kind of an example, if they had somebody to talk to, somebody in their own area say if something like that, special groups could get started with a few members I think they might carry on.

Eccles: I think that is somewhat the way the Society for Research on Adolescence got started as a small group and now it's had the same problem, it's getting too big. Well, are there any other things that you'd like to say about your personal interests, your family, other influences on your career, or advice you can give to new generations of young women starting in this field?

Crandall: Well, I really think it is wide open to you. I don't think there are any barriers left at this level that I know of, that I'm aware of at least. It's a fascinating field and there is always more to study than you have time to do. I think there are more places of employment too that can use your talents if you go into this area. I don't have any particular advice, I guess it would be to follow what interests you most, what makes you get excited to get up in the morning and get over there and get started on it! Seeing something finished and opening the computer sheets and seeing the results of something you've done that gives you some answers to some questions or at least new pieces of data that nobody in the world ever knew before is a very exciting prospect, I think, for research of all kinds. It's such fun.

Eccles: You are doing some exciting new teaching at the medical school; can you tell us a little bit about that and how you got involved in medical student's training?

Crandall: Well, when Fels merged into the Wright State School of Medicine in the late '70s I don't think the School of Medicine knew what to do with us at Fels. We just pretty much continued in our own lines of research and that was about it for quite some time. Well, as I got to know, I was assigned to the Department of Psychiatry because there wasn't a Department of Psychology within the medical school and as I got to know the various chairmen as they succeeded one another I would try to talk them into asking the residents in psychiatry to do a piece of research, just to get their feet wet in it. To demystify research. I think people who haven't had any formal training in research, as very few of them had, think it's some kind of special field that is very difficult to understand and can be quite arcane. Anyhow, if you just try a study or two you usually realize it's no more mysterious than anything else and my own opinion was that there was a good deal of psychiatry that had been built without a research foundation that it was more from the experience and theories and from the experience of people in the field who wrote about it and so on. I thought it would stand the students well to get used to the idea that they could continue to do some research without too awfully much extra effort once they got into clinical practice after they left. So about four years ago a child and adolescent psychiatry subdivision was begun and the fellow who heads it up and I each say that we each tried to persuade the other about getting some research started in it, but anyway we got it started. So every couple of weeks I meet with the then current residents, and it's more like a workshop, you just talk over what each person is beginning to get interested in and maybe some challenging questions or some supportive questions and try to keep each other feeling like a group in a sense that they will help each other out for reliability purposes or when they have to act as a blind, have to have a blind assignment of subjects of whatever. Just kind of cooperate and collaborate. So I've enjoy doing that a lot. Even if they never continue any research they will, I hope, learn to be more critical readers and evaluators of what they do read in the journal. But it's been interesting and I don't know the content area but I do know a little bit about research methodology so between us we can design the studies and they have good statistical help over there. So that's been a very rewarding activity since I retired.

Eccles: Great, that sounds like a very important contribution to medical students' education. Okay, thank you very much.

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